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ABSTRACT

The Student Attribute Study identified student characteristics and behaviors related to teacher expectations and attitudes. Children in grades two through five were identified who received consistent teacher rankings (high, medium, or low) over a two-year period on one or more of 13 bipolar scales describing student characteristics and teacher expectations. Students ranked consistently by two teachers across two years on at least one of the bipolar scales were identified and observed in their classrooms toward the end of the second year. Process data were collected using a multi-faceted coding system which provided for recording dyadic contacts in several contexts. These codes captured both the quality and quantity of the target students' interactions with their teachers. In addition, classroom observers completed a behavior checklist on the target students they observed. Checklist items, as well as the other data subsets, were analyzed by grade and sex and for high, medium, or low teacher rankings on the 13 scales. Also, in a free-response situation, teachers and classroom observers provided short adjective descriptions of the most salient characteristics of each child. (The background, rationale, and methodology of the study are described in detail, with the data presented in the appendixes.) (Author)

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THE STUDENT ATTRIBUTE STUDY

A Preliminary Report

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Abstract

This report details findings from the Student Attribute Study, a two-year investigation designed to identify student characteristics and behaviors related to teacher expectations and attitudes. Children in grades two through five were identified who received consistent teacher rankings (high, medium, or low) over a two-year period on one or more of 13 bipolar scales describing student characteristics and teacher expectations. Students ranked consistently by two teachers across two years on at least one of the bipolar scales were identified and observed in their classrooms toward the end of the second year. Process data were collected using a multi-faceted coding system which provided for recording dyadic contacts in several contexts; these codes captured both the quality and quantity of the target students' interactions with their teachers. In addition, classroom observers completed a behavior checklist on the target students they observed. Checklist items, as well as the other data subsets, were analyzed by grade and sex and for high, medium, or low teacher rankings on the 13 scales. Also, in a free-response situation, teachers and classroom observers provided short adjective descriptions of the most salient characteristics of each child. The background, rationale, and methodology of the study are described in detail with the data presented in the appendices.

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Preface

In recent years, there has been a flurry of research on the dynamics of teacher-student interaction in classrooms. Much of this began with the publication of Rosenthal and Jacobson's (1968) Pygmalion in the Classroom, with its exciting conclusion that teacher expectations for student achievement could function as self-fulfilling prophecies to the extent that they affected the achievement actually produced. This study led a number of investigators, ourselves included, to conduct research on teacher expectations and related phenomena. Our major focus was on the developing of understanding of the cause and effect mechanisms that mediate teacher expectation effects. We studied differential teacher behavior toward students who were objects of different teacher expectations, in order to see if teachers taught high expectation students in ways that would maximize their learning and taught low expectation students in ways that would minimize their learning. In several studies, we showed that this sometimes was the case, and identified some of the ways that teacher expectation effects are produced.

In the process, we became intrigued with individual differences. These included individual differences in teachers in the degrees to which they showed expectation effects and in general seemed to be affected by their own expectations, as well as individual differences in students that affected teachers. We also became interested in teacher attitudes toward students, finding that teachers do clearly form different attitudes toward different students in their classrooms, and that they sometimes treat students differently according to these attitudes. Again, there were individual differences in teachers here in the degree to which their attitudes affected their teaching, and there were individual differences in students which led to these attitudes in the first place.

Studies of teachers who were meeting their students for the first time and who did not have access to any information on the students other than what they could see of them in their classrooms revealed that expectations and attitudes were formed early and quickly. Furthermore, most of these were accurate (based on objective student attributes), and most of those that were not accurate were changed in response to new and better information. However, teachers differed in their general accuracy and openness to new information that would lead to change, and student types differed in the effects that they had on teachers and on the likelihood that teachers would notice and act upon information suggesting that their expectations or attitudes toward these students were inaccurate.

Running throughout these studies was the growing realization that differential teacher treatment of different students in the same classroom is not necessarily either good or bad. Instead, its meaning varies with the reasons for the differential treatment. Among the most important considerations are the degree to which teachers are aware of their attitudes and expectations, aware of how these impressions of students affect their treatment of the students (if they do), and the degree to which the differential perceptions and treatment represent appropriate responses to student differences (true individualized teaching), or, instead, whether they represent inappropriate teacher behavior. Knowledge about these questions must be developed before differential teacher treatment of different students can be interpreted meaningfully, and before responsible advice can be given to teachers.

To do this, it is necessary to develop information about the personal attributes of students that teachers develop contrasting expectations for or contrasting attitudes toward. How different are these students? Are the teacher perceptions

substantiated by real differences in characteristics and behavior? What student attributes are most likely to be associated with particular expectations or attitudes? What student attributes are noticed by teachers and which ones affect their reactions to students most strongly? These and related questions form the core of the student attribute study described in this book.

The Student Attribute Study developed as a natural progression from our previous work on teacher expectations and attitudes. However, it represents part of a much broader recognition by psychologists and educators that teacher-student interaction, and adult-child interaction generally, is a two-way street. This always has been recognized, of course, but the vast majority of research on such interactions until very recently has treated the adult as active and causal and the child or student as reactive and being shaped or affected by the behavior of the adult. Researchers not only in education but also in child development, socialization, and other fields where adult-child interaction is important, have come to see that individual differences in children and youth provide differential opportunities and limitations for the adults who deal with them. We cannot simply study adult behavior and assume that all students or children are essentially equivalent. Some are friendly and compliant, willing to do what the adult wants them to do with little or no complaint, and likely to provide positive reinforcement by making the adult feel appreciated or loved. Others are sullen and hostile, rarely willing to cooperate unless coerced, and more likely to "punish" the adult through rejection and opposition than to provide rewards in the form of gratitude or appreciation.

These were only a few of the ways that children differ in the opportunities and problems they present to parents, and that students differ in the opportunities and problems they present to teachers. The Student Attribute Study described in this book was a large scale investigation of teacher perceptions of and treatment of students in their classrooms. However, it was designed with the intention of identifying the attributes or characteristics that were associated with contrasting teacher expectations and attitudes and behavior, so that the data could be analyzed to address the question raised above: to what extent is differential teacher behavior appropriately based on real student differences, and to what extent is it based on unsubstantiated teacher perceptions that could be considered inappropriate?

As you will see, the results are voluminous and fascinating. Many probably were predictable, although even these are surprising in their depth and complexity. Many others provide surprises showing that teachers sometimes seem unusually patient with students who appear to be unusually exasperating, the teachers seem sometimes overly hostile toward students who do not seem to be as problematic as other students that teachers are more able to adapt to, and so on. The book raises a great variety of questions about a great variety of topics, but one thing is certain: it will convince you that student differences must be taken into account in thinking about and making prescriptions for ideal teacher-student interaction. The range of individual student differences on intellectual and personal attributes in any given classroom is so vast, that statements made about "students" in general, have very limited meaning. Some students in the same classroom are so different that all they share in common for practical purposes is chronological age and

presence in the classroom. Beyond this, it is difficult to find much in common between them or to say much to the teacher about how they should be treated in common. Instead, statements to teachers have to be phrased in terms of how they can best react to the unique complex of personal characteristics that each of these students presents. This is what this book is all about.

CHAPTER I
TEACHER EXPECTATIONS AND ATTITUDES

Susie Sweet makes a grand entrance on her first day at Lincoln School. She is confidently escorted to Mrs. Barnett's classroom by her chic, well-dressed mother. Mrs. Sweet introduces herself to Mrs. Barnett with considerable poise and charm, and then proudly presents Susie, who beams and displays her well stocked school box. After a few minutes of pleasant conversation, Mrs. Sweet bids Susie goodbye, reminding her that she will pick her up after school and that Mrs. Barnett will take charge of her in the meantime. Susie confidently says goodbye to her mother and then asks Mrs. Barnett where she should sit.

Mrs. Barnett is beaming throughout all of this, too. With Susie's home background, maturity, social skills, and confidence, she looks like a sure bet to be a class leader and a high achiever. Working with Susie probably will be a pleasure.

Sally Slow gets off to a very different kind of start. First, her mother does not come with her, and no one introduces her to Mrs. Barnett. Instead, her third grade brother, a boy that Mrs. Barnett had problems with two years ago, brings Sally to the door and tells her to "get on in there." He then runs off to his own class, leaving Sally standing frightened, confused, and alone at the doorway. Mrs. Barnett waits to see what will happen, hoping that Sally will come in and introduce herself. Instead, she remains where she is, looking increasingly confused and afraid. Fearing that Sally may run away or panic, Mrs. Barnett decides to go to her.

Sally seems startled when Mrs. Barnett greets her, and she never does look her in the eye or relax. She gives her name upon request, but only after some hesitation. Mrs. Barnett tries to put her at ease by telling her that she

is happy to have her in the class and that she has a seat all picked out for her. Sally listens and follows as she is led to her seat, but she remains Incommunicative and anxious.

Throughout all of this, Mrs. Barnett is concerned and somewhat depressed. She is concerned about Sally, fearing that this trauma may leave lasting scars, and aware that her usually successful techniques for putting new children at ease have not worked in this case. She is depressed because she notes that Sally has arrived without any of the supplies she is supposed to have, and that she shows the same lack of readiness for school and uneasiness around Mrs. Barnett that her brother showed two years ago. Mrs. Barnett felt natural and relaxed with Susie, but she feels vaguely tense and uncomfortable around Sally.

When Mr. Thompson first looked over the roster for his 10th grade homeroom class, he was delighted to see that Don Davis was included on it. Discussions with ninth grade teachers and contacts with ninth graders the previous year had indicated that Don was one of the best all around students in the grade. He excelled academically and was a popular and respected leader among the students. These qualities made him especially desirable, because he would be a positive influence on the class as well as a pleasure to work with personally.

However, Mr. Thompson was surprised and disheartened when school began and he got a look at the "new" Don. He could hardly believe it was the same boy. This formerly respectful student had developed a macho complex, complete with exaggerated hip talk, affected mannerisms and clothing, and an antagonistic, almost defiant attitude toward teachers. Worse yet, he was heavily into alcohol and dope, and he was still a strong influence on classmates. Suddenly, one of Mr. Thompson's anticipated resources had become a trouble spot.

It is November, and Joan Richards is reviewing her records and making notes in preparation for a round of conferences with the parents of each of her students. This year, the school administration decided to cut the number of report card gradings in favor of individualized conferences with parents. The idea was to give parents and teachers opportunities to meet one another and to see that parents got rich^{er} and more extended feedback than report cards gave. Joan was looking forward to this, although she had never done it before. She wasn't sure what to tell some of the parents, especially the parents of students who were doing very poorly or misbehaving regularly. Perhaps it was because she was thinking mostly about these students that she had difficulty making notes for a talk with the parents of Julie Wilson.

She began in the usual way, with a general characterization of Julie's progress (average) and classroom conduct (good). However, when she went to add more, she couldn't think of a single thing to say! Joan suddenly realized that she didn't really know Julie at all, even though Julie had been in her class for ten weeks now and even though she knew most of the other students quite well. She couldn't recall a single conversation with Julie, didn't know much about Julie's interests or background, and didn't know who her friends were. In many ways, it was as if Julie had not been there at all!

In the process of preparing notes, Joan discovered something else about herself and her students: she very much liked and enjoyed some of them, did not have strong feelings one way or another about many of them, and, she had to admit, she couldn't stand a few of them. She found this somewhat surprising, because she had not been aware of these feelings before, at least not in any systematic way. She began to wonder if these feelings affected her classroom behavior. Did she show special favoritism towards the students that she liked?

Did she pick on the ones she disliked? Was it "professional" for her to have strong reactions to certain students?

Upon reflection, Joan realized that in most cases she could point to reasons, and good reasons, why she liked or disliked certain students. So, she decided that it was perfectly natural, not unprofessional, to like some kinds of students and dislike other kinds. However, she realized that she needed to make sure that her feelings did not interfere with her fairness and objectivity in dealing with students. This might be difficult, because the students that she liked and disliked probably were aware of her feelings.

Joan was bothered by certain things that didn't hang together well. If she had developed strong feelings about certain students, and if this was natural, why didn't she have clear cut feelings about all of her students? Also, although she could point to the reasons why she liked certain students and disliked others, she couldn't give reasons in some cases. Obviously, things were not as simple as they seemed at first.

Out of curiosity, math teacher Bill Robinson was looking at his students' scores on standardized math tests and their scores on a group Intelligence test given earlier in the year. He was not surprised to see a general correspondence. Students with high IQ's did relatively well in math, and vice versa. However, he became intrigued with certain exceptions. Several students didn't do nearly as well on the math test as Bill would have expected from their IQ scores. The math scores of these students seemed appropriate at the time, because they reflected the students' general performance in his course and his own assessment of their knowledge of the subject matter. However, these discrepancies with IQ scores suggested that they might be underachievers who had

not been working up to their potentials. Also, Bill was surprised to see that some students who did well in math had lower IQ's than he would have guessed. Did this mean that they were "overachievers," making up in persistence and effort what they lacked in native ability? How might Bill go about answering these questions? What would he do with the information if he did answer them to his satisfaction? Should he try to answer them at all?

These vignettes are fictional but typical of the experiences of teachers in respect to their own expectations and attitudes about students. Mrs. Barnett's experiences with Susie and Sally on the first day of school illustrate that important individual differences among students often are obvious at a glance. Many students make strong first impressions on teachers in the first few moments they are with them, even if the teachers know nothing about them beforehand. These first day at school experiences, along with the reactions of Mr. Robinson to his students' math and IQ scores, illustrate the kinds of expectations for student performance that teachers form and some of the factors involved in forming them.

The other vignettes illustrate how teachers have not only expectations but also attitudes towards their students. Sometimes these are very strong, as in the case of the students that Joan Richards strongly liked and disliked. On the other hand, some students not only do not engender strong feelings in their teachers; they make little or no impression at all. Julie Wilson is such a student. Joan has had her in class for ten weeks now but knows virtually nothing about her and has no special feelings about her.

Teacher expectations and attitudes towards students usually are stable, because they usually are based on stable student attributes. However, there are exceptions. Students sometimes change between or even within school years. Occasionally, as in the case of Don Davis, such changes can be dramatic, and they

can produce dramatic changes in teacher expectations and attitudes.

Although most teacher expectations and attitudes are based on identifiable and appropriate student characteristics, some are difficult to explain or even justify. For example, teachers sometimes believe that students can do better than they are doing, or that they are doing as well as they can and are not really as bright as their IQ scores suggest. Such teachers have well defined ideas about the levels of performance that "should be expected" from different students, based on their own assessments of student ability. Sometimes these teacher assessments are remarkably accurate, more so than IQ scores or other "objective" data. In other cases, however, they are incorrect. One focus of this book will be on the factors teachers take into account in forming judgments about what to expect. As we will see in the next chapter, teacher expectations sometimes cause student performance instead of merely reflecting it, so that knowledge about how such expectations are formed and maintained is important.

Just as certain teacher expectations are remarkably accurate and based on sound evidence while others are inaccurate or inexplicable, so are teacher attitudes. Note that Joan Richards could give clear and appropriate reasons for her positive and negative reactions toward certain students, but not all. Apparently, she liked or disliked some students for reasons that were not obvious. Even she herself did not know what was involved here, although she was aware of her feelings. In addition, the chances are that she had strong feelings about a few other students without even realizing it. The students themselves and even their classmates might recognize this, even if Joan did not.

As we will see, teacher impressions of students generally are accurate and based on observable and understandable student characteristics, and teachers usually are aware of them. However, sometimes the reasons for teacher attitudes

are difficult to identify, and sometimes teachers hold clear cut attitudes toward students without awareness. The dynamics of these attitudinal relationships form another major focus of this book.

In summary, this book is about teacher expectations and attitudes towards students, their effects on students, the student characteristics associated with them, and the processes involved in their formation, maintenance, and change.

The Dynamics of Teacher-Student Interaction

There is a large body of literature in social psychology on such topics as impression formation and change, interpersonal perception, and group dynamics. Since this research presumably applies to people in general, theoretically it applies to the dynamics of teacher-student interaction in classrooms. However, application often is difficult in practice.

One reason is that much of social psychology is based on laboratory research using strangers brought together for a brief contact in an artificial experimental situation. This is not all bad, because it allows experimental control of many factors which might affect the results and thus need to be taken into account somehow. However, these methods limit the generality of findings. Because the laboratory situations are so artificial, their results do not always hold up in more naturalistic situations where factors which were eliminated or controlled in the laboratory are operating. Thus, laboratory studies need to be replicated in naturalistic situations to see if the same results are obtained. This means that, although experimental social psychology is a rich source of hypotheses about classroom dynamics, laboratory findings cannot be assumed to

apply to classrooms unless they are borne out in naturalistic classroom studies.

The same can be said about generalizing laboratory findings to any naturalistic situation, but in the case of teacher-student interaction, there is another reason why naturalistic classroom research is needed. The majority of social psychology research, laboratory or otherwise, is based on interactions between adults. Typically these adults were unacquainted prior to the study, although some group dynamics studies have used groups such as fraternities or scout troops. In any case, existing social psychology is mostly the social psychology of relationships among peers: adults dealing with adults, and to a lesser extent, children dealing with children. When adults are dealing with children or youth, as is the case with teacher-student interaction, an age and status differential is present which affects the relationship to some degree.

Furthermore, teacher-student interaction is a special case of adult-child interaction, because it takes place in classrooms among individuals operating within well defined roles. Teachers are the classroom authority figures. They are charged with initiating and conducting instruction, which is the primary focus of schooling. During the time that students are assigned to their classes, teachers have an institutionalized special relationship with them. This causes them to spend a great deal of time with the students and usually to get to know them quite well, although role demands focus attention and interaction on matters directly related to instruction.

Similarly, student interactions with teachers are somewhat different and more specific from their interactions with adults generally. They know that

they will be dealing with teachers each school day, that teachers will help them learn but also evaluate their learning and assign grades, and that the teachers are authority figures who may reward or punish their achievement or conduct.

In summary, the teacher and student roles focus and also limit teachers' and students' perceptions of and interactions with one another. Students deal with teachers primarily as teachers, and only secondarily as adults with individual personalities. Teachers deal with students primarily as students, and only secondarily as unique individual children or youths. As we will see, the dynamics of teacher-student relationships sometimes are just special cases of more general interpersonal dynamics. Often, however, the status and age differential involved and/or teacher and student roles produce effects which are unique to classrooms. Thus, to some degree, this book contains information about social psychology as it applies to classrooms, but mostly it concerns the social psychology of teacher-student relationships which are unique to classrooms.

This is the primary rationale for research focused squarely upon teacher-student relationships instead of interpersonal dynamics generally. There is another, more practical, reason for collecting such data, however: dispelling some of the myths that surround teachers and teaching. If this need is not already obvious to you, it probably will be after you consider some of the myths discussed below. Most of these are believed by large numbers of people, and they constitute some of the main reasons why many teachers are demoralized and why much of the public is disenchanted with teachers.

Some Popular Myths about Teachers and Teaching

A great deal of information has been collected about teacher expectations and attitudes. When integrated, this information provides an interesting and

useful body of knowledge both for those interested in interpersonal dynamics, especially those involving teachers. However, the selective presentation of only pieces of the total picture has resulted in the promulgation of much misinformation and the creation and perpetuation of certain myths about teachers. To help set the stage for the book as a whole, and more specifically, to help develop an appreciation for some of the complexities involved, let us examine some common myths about teachers. Do any of these come uncomfortably close to home?

Teachers as "Them"

Recently, many writers have pointed out that labels tend to create stereotypes and make groups seem more homogeneous than they really are and also more different from everyone else. This concern has led to enthusiasm for mainstreaming among professionals concerned about the effects of labels on special education students. Originally thought of as diagnostic devices, these labels ultimately became the bases for removing students from regular classes and segregating them into special education classes.

While not nearly so extreme, research on teachers has had a similar labeling effect. The cumulative effect of reading about "teachers' expectations," "teachers' attitudes," and the like, with constant inclusion of the word "teachers," causes us to view teachers as a homogeneous group much less diverse than they really are. We tend to forget that teachers are an extremely large and diverse group difficult to make generalizations about. Furthermore, most of the generalizations we can make about teachers really are generalizations about people. They are based upon principles of human psychology that apply to everyone, not just to teachers.

As a group, teachers probably do not differ systematically from adults. In general, except that they have better than average educations. They differ even less from adults with similar educational backgrounds, except that they have a greater interest in education and in working with people than, for example, engineers. Compared with people employed in other occupations involving similar educational requirements, teachers probably differ little if at all on such indices as mental health, personal morality, or politics.

Yet, probably because of constant exposure to the label "teachers'," we tend to stereotype teachers. It is worth remembering that the material on teachers presented in this book and elsewhere, except for what is specific to the teacher role, probably is true for adults in general. Teacher expectations and attitudes towards students probably follow the same general principles of formation, maintenance, and change as those involved in the attitudes and expectations of neighbors for their neighbors, relatives for their relatives, supervisors for the workers under their supervision, or parents for their children. Teachers are not some strange species; they are your friends, acquaintances, and neighbors. If you are a teacher or future teacher yourself, "they" are you.

Teachers as Gullible and Suggestible

Interest in the effects of stereotypes and labeling was fueled with the publication of Rosenthal and Jacobson's (1968) Pygmalion in the Classroom. This book described the Oak School experiment, in which the authors provided teachers with false "information" suggesting that certain students (actually selected randomly) had been identified by a test as "late bloomers" who would make unusual progress in the coming school year. The experimenters had no further contacts with the teachers until the end of the year, when achievement

test data were collected. Analyses of the achievement data revealed that first grade students identified as "late bloomers" did in fact do notably better than expected, and that second grade "late bloomers" did somewhat better. There were no differences in grades three through six. The authors interpreted these findings as due to "Pygmalion" or "teacher expectation" effects: teachers got better performance from the students identified as "late bloomers" because they expected to get better performance from them.

This study was one of the most widely publicized and most misunderstood in the history of educational research. One problem was that its results were blown way out of proportion. Expectation effects were obtained only in the first two grades, and they were not very extreme even in first grade. However, the publicity given this study often suggested that its results were much stronger and more general. Third and fourth hand accounts exaggerated things further, to the point that some articles even suggested that teachers could obtain any results that they wanted merely by predicting or wishing for them.

As we will see in the following chapter, there were a variety of reasons why such nonsense got started and persisted for some time. For the moment, it is enough to state that Pygmalion in the Classroom inspired a great amount and variety of research, including most of the work discussed in this book. Among other things, it inspired studies designed simply to show that teacher expectations could be formed or changed easily by exposing teachers to test scores, cumulative record folders, work samples, videotapes of students taking tests, or other "information" (usually phony) about "students" (usually fictitious).

Many of these studies were designed so that positive results were almost assured. If you had to rate the probable future achievement of two students solely on the basis of cumulative record folders given to you, and if one of the

folders suggested a bright, high achieving student and the other suggested an unmotivated, low achieving student, what would you do?.....Right, and that is what the subjects in these experiments did. Nevertheless, a parade of such studies seemed to indicate that teacher expectations could be manipulated, sometimes spectacularly, with ease.

These studies usually were quite artificial. Their methods involved manipulation of expectations under experimental conditions which limited access to information about the "students." Often, there was no direct contact between the subject and the students at all. Many studies which did include direct contact involved only brief contacts between subject-teachers and students whom they never had seen before and might never see again. Under these circumstances, where information is restricted to what the experimenter chooses to provide, it hardly is surprising that subjects respond according to the nature of the information they get.

While all of this was going on, other studies done under more realistic conditions revealed that things were not so simple in the real world. Several attempts to replicate Rosenthal and Jacobson's study failed, although these failures were given much less publicity than the original study was. Also, many laboratory studies on expectation effects used college students in tutoring situations rather than working teachers, but the results usually were discussed with reference to "teachers' expectations." Thus, for a time, one report after another seemed to suggest that "teachers" were incredibly gullible, suggestible, manipulable, and, in general, ready and willing to believe virtually anything they were told.

Unfortunately, this impression still persists, although dissemination of the points made in the previous paragraphs has helped to dispell it. Also,

several other studies have shown that most teachers are nothing like this gullible stereotype. Probably the most influential and convincing of the studies countering this notion is one conducted by Fleming and Anttonen (1971).

Their study involved the teachers of about 900 second graders. There were three experimental groups of teachers given information about their students, and a control group in which the teachers were given no information. The teachers in one of the experimental groups were given their students' actual measured IQ's. Another experimental group got scores 16 points higher than the actual measured IQ's, and a third experimental group got scores on a test of primary mental abilities. The main purpose of the study was to see if the students of teachers who received inflated IQ scores would exceed expectations on later measures of IQ, school achievement, and self concept. Information was given to the teachers in the fall, and testing was done once in February and once more in the spring.

Giving the teachers inflated IQ scores made no difference at all in later IQ and self concept scores. The students whose IQ scores had been inflated did score higher than expected on one subtest of the primary abilities test in February, but there were no differences in the spring testing. In general, then, the study produced no evidence of lasting expectation effects favoring the students whose IQ scores had been inflated in the information given to the teachers in the fall.

Furthermore, interviews with the teachers revealed that they were far from gullible and that they were using test information intelligently. The teachers who received the inflated IQ scores simply did not believe them, and consequently they did not raise their expectations for student performance.

The IQ data were too discrepant from other data and from what the teachers could observe. Faced with a dilemma, they acted on the basis of their immediate observations and other data more reliable and trustworthy than the inflated IQ scores given to them by the experimenters. Thus, in realistic situations where teachers have continuing opportunities to observe students, they are unlikely even to believe, let alone be affected by, information which is clearly incorrect.

These findings do not imply a general teacher rejection of test scores. The teachers differed in their relative favorableness toward tests, and these differences were related to other measures. Teachers who favor the use and validity of tests (particularly achievement tests, rather than IQ tests) were more successful in producing gains in IQ and achievement than other teachers. These teachers also gave higher grades and were less likely to discriminate according to social class in grading. Thus, the teachers who appeared to use tests intelligently were generally more effective teachers. In addition, teachers in general will not accept test "information" which is not credible. Other studies have yielded similar results (Brophy and Good, 1974).

Teachers as Diagnosticians and Therapists

A view almost opposite to the previous one frequently is expressed by people who think of teachers as experts who can diagnose intellectual or personal problems and "cure" them. Such beliefs are reinforced by the ideas that certain tests are "diagnostic" in the sense that they reveal the underlying causes of problems, that certain teachers or treatments are effective in producing "cures," and, more generally, that schools have both the responsibility and the expertise to identify and cure any problems that students might have.

Much of this stems from public ignorance about the usefulness of tests for producing worthwhile diagnostic information, and about the reliability and effectiveness of treatment approaches. Whatever their labels or claims, few tests are truly diagnostic. They may provide some useful information, but few can identify underlying causes in the same sense that an X-ray can reveal a fracture, and practically none specify a linkage between the "diagnosis" and a particular prescription for treatment which is known to be effective.

If X-rays of an injured arm reveal a broken bone, the cause of the symptoms is identified and procedures known to be effective can be used to cure it. In contrast, many of the problems revealed by "diagnostic" tests in education have no known cure (such as color blindness), and many do not even have clear relationships to learning problems. Often, all that is accomplished is to provide a label for a student having difficulty with schooling (such as "learning disability"). This label does not have much meaning, and in the absence of a more specific linkage to effective treatment, it accomplishes nothing.

The same is true in the area of behavior and personality generally. Again, many tests are available but few are truly diagnostic, and none are linked to reliably effective treatments. This is true even for experts in special education, child psychology, or psychotherapy, let alone for ordinary teachers. This should be kept in mind by those who would make schools and teachers responsible for curing society's ills.

Teachers can and should motivate their students to learn and maximize their progress in doing so, and they can and should do some socialization. However, they cannot substitute for absent or inadequate parents, concentrate their attention on individuals for prolonged periods of time when they are charged with teaching classes of 25 or 30, or function as specialized psycho-

therapists or social workers. Usually, they do not have training in these areas, and even if they do, they still must teach an entire class and will not have time to do intensive individualized work with students in need of specialized intervention.

For similar reasons, teachers cannot be expected to wipe out the problems connected with poverty, eliminate delinquency and crime, produce racial harmony, or eliminate self-destructive behavior by disturbed individuals. This should be obvious, but many people seem to expect teachers to accomplish these things, and they seem genuinely surprised or even outraged when their expectations are not fulfilled. In many cases, such expectations and attitudes reflect naivete or misinformation about the powers of schools and teachers to significantly affect these problems. For many people, however, such unrealistic expectations and attitudes function as denial mechanisms which help them ignore problems or act as if they are being solved. Out of sight, out of mind, so to speak. If only it were so.

Teachers as Parent Substitutes

Schools and the teachers who staff them do substitute for parents in a legalistic sense. They are responsible for their students during school hours. They also substitute for parents in a moral sense, because they are sources of information and values. Thus, this view of teachers is partially valid.

However, teachers are in no position to usurp parental roles, even if they and/or parents wanted them to. Numerous studies of the relative effects of different influences on developing children reveal that teachers run a poor third behind the family and the peer group. As institutions, schools are not nearly as powerful as family influences and social class influences expressed through the family and the neighborhood.

Teachers can and do have significant effects upon their students' learning (Good, Biddle, and Brophy, 1975), but these effects are not nearly as strong as those from other sources (Coleman, et al, 1966; Jencks, et al, 1970). Those who believe that teachers can substitute for missing or inadequate parents are simply unrealistic, and parents who actually want them to do so are (in effect) trying to evade their own parental responsibilities.

Even if teachers could fulfill these roles, few want to. Interviews with teachers reveal that they are concerned primarily with learning and with dealing with their students as students (Jackson, 1968; Brophy and Evertson, 1976). Most teachers think as teachers when they think about their students, and they usually think about their students as students. This is very different from thinking about young people as a parent or relative, focusing on a broad range of factors rather than just their learning progress and classroom conduct. Thus, not only would teachers be unable to act as parent substitutes if they wanted to; most of them do not want to.

Teachers as Socializers and Spiritual Leaders

Much has been written about how families have abandoned socialization tasks to other institutions, particularly churches and schools. Unfortunately, this appears to be correct. Many parents do want teachers to assume basic socialization functions and act as sources of guidance to their students. Often this sentiment is strongest among parents who expect teachers to embody the Protestant ethic, preaching and practicing the values of hard work and what they perceive as clean living. They expect teachers to honor excellence, value competition, teach habits of neatness, orderliness, and modesty, and so on.

There is a great deal of ignorance and also a degree of hypocrisy involved here. For centuries, teachers have been exposed to a double standard concerning their behavior, at least their behavior in public. Somehow, parents seemed to think that it was all right for them to do whatever they wanted to do, but that this wasn't all right for teachers. Some such parents appeared (and still do appear) to have the impression that teachers are more potent socializers and influences on children than parents are. This is not the case.

Furthermore, although they may have accepted it in the past, few teachers are willing to abide by a double standard today. The stereotype of the teacher as the embodiment of old fashioned virtues is less true than it ever was (if it ever was true at all). Teachers may be slightly more traditional in their attitudes and behavior than college graduates generally, but as a group they probably are less traditional than almost any group without college educations. Thus, with the idea that teachers should act as parent substitutes, the idea that teachers should act as spiritual leaders and socializers not only is unrealistic as an expectation but is unacceptable to most teachers. To the extent that teachers desire to socialize their students at all, it is likely to be in the direction of greater flexibility, values clarification, and other flexible approaches to morality which are feared and opposed by parents with rigid moral codes.

Lately, teachers have been caught in an ironic crossfire on this topic. Traditionalists criticize them for laxity and "unacceptable" moral codes, and paint them as radicals bent on undermining the morals of young people. Meanwhile, existentialists and others espousing situation ethics see teachers as stodgy, old fashioned, or even dictatorially rigid and bent on foisting outdated and confining value systems on their students.

Obviously, both of these characterizations of teachers cannot be right, and in fact both are wrong. Again, the overwhelming majority of teachers are interested in socialization only insofar as it affects matters relating to schooling. They do not have the desire, let alone the power, to offer effective spiritual guidance.

The notion of power brings up a connected myth: teachers often are pictured as extremely powerful individuals who control the lives of their students, both in the present through enforcement and in the future through inculcation of values. This is true to some degree and for a small number of students, but for most, teachers do not have this kind of power. Their students are not passively programmed by them into blindly doing as they are told even in the present, let alone the future. Few students are cowed by teachers or stand in awe of them.

Research on teacher attempts to control student behavior by praising or rewarding good behavior and criticizing or punishing unacceptable behavior have revealed that teacher praise and criticism are remarkably weak reinforcers. Most students are motivated very little or not at all by teacher verbalizations, and even rewards and punishments are not nearly as effective as commonly believed (Brophy and Evertson, 1976; Fernandes, et al, 1975; Lepper and Greene, 1975; Eden, 1975). Thus, teachers not only lack the desire to act as basic socializing agents for their students; they also lack the power to do so.

Teachers as Consistent

Because teachers are thought of as diagnosticians and treatment experts, and because they are seen as much more powerful than they are, many people try to classify them into simplistic categories according to their "general styles"

or "general effectiveness." This myth might be true if the other myths supporting it were true, but they aren't and it isn't. In the first place, only recently has it become clear that teachers have significant effects at all, once you take into account students' home backgrounds and individual differences in ability (Good, Biddle, and Brophy, 1975). Even now, there are remarkably few studies demonstrating this, and fewer still demonstrating that certain teachers differ from other teachers consistently and predictably.

Studies comparing teacher effectiveness in producing student learning gains across two or more school years now have established that certain teachers are consistently more effective than others (Brophy, 1973; Veldman and Brophy, 1974; Acland, 1974). When student learning scores are adjusted to take into account student achievement levels at the beginning of the school year, correlation coefficients relating average gain in teachers' classes in one year to average gain in the next are high enough to be statistically significant (see Appendix C for an explanation of correlation coefficients). This indicates that the differences are attributable to the teachers, and not to chance fluctuations across years. However, correlations are not very high (they average .20 to .30). Partly because of this, attempts to discover the kinds of teacher behavior that are most effective for producing learning gains have been disappointing, although some progress has been made lately (Rosenshine and Furst, 1973; Dunkin and Biddle, 1974; Brophy and Evertson, 1976).

One reason for this is that teachers often are thought of as consistent, not only in their effects but in their teaching behavior. However investigations of teachers' activities across different contexts (Brophy, et al, 1975) and across time (Crawford, Brophy and Evertson, 1975) have yielded little evidence of stability. Teachers behave very differently in different situations, depending

upon the nature of the activity and on what they are trying to accomplish. They also behave differently towards different students, a phenomenon which will be one of the major topics of this book. Thus, it is difficult to characterize teachers as being generally warm vs. cold, well vs. poorly organized, direct vs. indirect in their instruction, and so on.

Perhaps even more surprising than low stability in effects on student learning and in teaching methods is low stability in effects on student attitudes. Most of us assume that teachers have clear and accurate reputations. We can remember hearing about the teachers we had when we were in school, and we tend to remember the stereotypes. However, teachers who are consistent across years in the general reactions they provoke among students are exceptions. Stability of student attitudes towards teachers is almost as low as stability of teacher effectiveness in producing student learning gains (Good and Grouws, 1975).

Teachers who are extremely well liked probably will be popular the next year, and teachers who are detested probably will be unpopular the next year. Except for these extremes, though, there is little stability from one year to the next in student attitudes towards teachers. It is not known yet whether this reflects different teacher behavior in different years, or whether general teacher qualities remain stable but students differ in their preferences. In any case, the idea that teachers are stable and predictable must be added to our list of myths.

Teachers as Sexists - Version 1

There are two separate myths implying that teachers are sexists. These would be of interest under any circumstances, because of the popular interest in

sexism, but these two myths are of special interest because they are almost completely contradictory! We will refer to them as Version 1 and Version 2.

Version 1, which is focused on, but not limited to, female elementary school teachers, has it that schools and teachers are remarkably feminine in orientation. Teachers are seen as constantly feminizing students of both sexes by idealizing and rewarding feminine behavior and by putting down and punishing masculine behavior. This idea has been around for a long time and has appeared in many places, although the books The Feminized Male (Sexton, 1969) and Reading Rights for Boys (Austin, Clark, and Fitchett, 1971) gave it special attention and publicity.

As we will see in Chapter 7, this is almost entirely nonsense. There is some (but not much) evidence of female teacher favoritism of female children in preschools, but virtually no evidence of sexual favoritism of any kind at higher levels of education, including elementary schools. Much of the force of this myth has been punctured by studies showing that male teachers are remarkably similar to female teachers in the ways that they deal with male vs. female students. To most observers, this implies that any differences related to sex of students cannot be explained by anything as simple as sexist bias on the part of female teachers. However, a few diehards have not been stopped by the data, and some go so far as to suggest that male teachers are not very masculine!

In addition to everything else that is wrong with it, the latter argument is dated. As a nation, we are beginning to reevaluate our traditional sex roles. In the process, some things traditionally considered masculine or feminine are beginning to be considered undesirable for persons of either sex, and other traditionally sex-typed traits are beginning to be seen as desirable

for persons of both sexes. It is not clear yet how things are going to turn out, but it appears that sex role learning will become more flexible for both sexes. We are moving towards increasing emphasis on good qualities that we would like to see in everyone, and away from emphasis on the differences between the sexes. Consequently, even though there never was any real reason to worry about it in the first place, there is less worry these days about teachers systematically feminizing students in general and boys in particular.

Teachers as Sexists - Version 2

Ironically, just as Version 1 is dying out, a second and almost opposite "teachers as sexists" theory has been propounded recently, and it remains a popular theme today. This is the idea that teachers of both sexes, but this time particularly secondary school teachers and perhaps particularly male teachers, are constantly foisting traditional sex role stereotypes upon their female students. This goes back to the old idea that school was meant primarily to prepare males for breadwinning occupations and females for mother and homemaker roles. Critics of modern schools have made some valid points concerning such problems as the restriction of classes like home economics to girls and classes like auto mechanics to boys. Also, differential counseling of male and female students with an emphasis on trying to get boys (but not girls) to aspire to become professionals or enter other high status occupations has been practiced in many schools.

Teachers also are frequently accused of propounding the attitude that boys will need advanced education for breadwinner roles but girls should concentrate on marriage and the family. There was and is some validity to this argument, but much more so prior to the women's liberation movement and the general con-

consciousness raising about sex roles which has occurred over the last decade. Although hard data on the matter probably do not exist, casual observation suggests that teachers are more likely to be leaders than followers or resisters here, so that most such criticism is misdirected. Certain school practices opposed by feminists still exist, but usually because of laws or rules made by state education agencies or local school systems rather than because of individual teachers' preferences. The teachers we know personally, and those that we know about indirectly, seem to be at least open minded and often enthusiastic about helping their female students fulfill their potentials in all areas. In particular, they usually help and encourage them to "think big" in their educational and occupational aspirations.

As with other myths, teachers often catch it coming and going here. When they are not being irritated by accusations that they are perpetuating undesirable traditions at the expense of their female students, they often are busy defending themselves against the complaints of traditional parents that they are turning their daughters into bra burners.

Teachers as Racists

The situation with racism is similar to the situation with respect to Version 2 of sexism. That is, in the past, before general consciousness and concern about this problem had developed, teachers probably were as racist as anyone else (but probably not any more so). However, despite frequent allegations that teachers are unconscious or even conscious racists, evidence to support such assertions is rare. Most attempts to find racial discrimination in teaching have failed. The few studies reporting discriminatory behavior used college students in the roles of tutors rather than inservice teachers.

(Coates, 1972; Rubovitz and Maehr, 1973). Once again, data taken from a different population were generalized to teachers, and teachers get caught in the middle and catch it from both sides.

In racially tense situations, it is common for teachers to be accused of discrimination by students and parents of both groups. Anything that they do which is unfavorable to a minority group student may be perceived as evidence of prejudice and discrimination, no matter how much the student deserves such treatment. Also, anything they do which is unfavorable to a majority group student may be perceived as evidence of "reverse discrimination," again independently of questions about what should have been done given the student's behavior.

In our own research (Brophy and Evertson, 1976) we have been impressed with teachers working in inner city schools who typically show dedication to their jobs and their students and a remarkable absence of racial or other stereotyping in their comments about students and behavior with them. Their perceptions struck us as quite realistic and individualized, based upon students' classroom performance and observable behavior and not upon bias or stereotypes. Again, most teachers are taking a bum rap here.

Teachers as Sadistic Martinets

Much educational literature leaves the impression that the average teacher is a self centered, egotistical, and cruel individual who pretentiously shows off knowledge and puts down students with great relish. This stereotype is something like the law professor in The Paper Chase, but without the good qualities that this fictional teacher had. Although such teachers undoubtedly exist, it is difficult to understand how anyone who spends much time at all in schools could come away with the idea that average or typical teachers are anything like

this. Most teachers are hardworking and dedicated people showing little or no pretentiousness or sadism. They may not be the wise diagnosticians and treatment experts that another myth portrays, but they are much closer to that myth than this one.

Teachers as Blamers and Rationalizers

One of the more recent myths about teachers stems from recent interest in the applications of attribution theory to education. Attribution theory deals with people's perceptions of themselves and their experiences, especially their perceptions of the reasons why things do or do not occur. Some people typically attribute most of what happens to them to their own behavior, taking credit for the good and accepting responsibility for the bad. Others typically attribute most of what happens to them to external factors outside of their control, such as fate, luck, or pure chance. They take less credit but also accept less blame, because they do not feel personally responsible for what happens to them.

There are variations on these main themes. Some people are more willing to take responsibility for good things than for bad, while others show the reverse pattern. Some people do not have generalized patterns. Instead, they take responsibility for things that happen in areas in their life where they perceive themselves as responsible, but not in other areas where they feel they have little or no control. Attribution of causality by teachers has been studied intensively of late.

Studies using highly controlled and unrealistic situations which minimize teacher opportunities to interact with students usually produce results suggesting that teachers are self-serving in their attributions (Beckman, 1970; Johnson, Felgenbaum, and Welby, 1964). In these studies, when teachers were led to believe that students they taught had done well, they tended to take

credit for the students' successes. When they were led to believe that the students had done poorly, they tended to blame the students (poor motivation, lack of effort, limited ability) or external factors (bad luck, difficult tests), rather than to take responsibility themselves (poor teaching). The implication seemed to be that teachers were willing to take credit for success but unwilling to accept blame for failure.

However, other studies (Kelley, 1972; Ames, 1975; Beckman, 1972) used more naturalistic methods in which teachers had an opportunity to interact directly and at some length with the students. These produced entirely different results.

Here, teachers seldom took much personal credit for student success, attributing it instead to student ability and effort. When students failed, teachers tended to attribute the problem to external factors or to accept the blame themselves, but not to blame the students. Here again is a case where laboratory findings generalized to teachers reflected badly on them, whereas data taken in naturalistic situations from real teachers showed a more favorable set of results.

There is another interesting twist to the attribution research that is worth keeping in mind, also. Some studies included observers who watched the teachers teach. Sometimes these observers were teachers themselves, and sometimes not. In any case, these studies involved administering the same questionnaires to both the teachers and the observers to see if there were differences in attributions of causality for teaching success and failure. Taken at face value, the results reflected badly on teachers: observers were less likely than teachers to credit teachers for success, more likely to blame teachers for failure (Weiner, 1972).

Because the teachers were ego involved in the outcome of their teaching and the observers presumably were neutral, and because many of the observers were teachers themselves, most people believe the observers rather than the teachers. However, this is one case where relating the classroom data to the larger body of information on causal attribution paid off. It turns out that in all kinds of situations when behavior by actors later is rated for causal attribution both by the actors themselves and by observers, observers regularly attribute much more causality, good and bad, to actors than actors attribute to themselves (Weiner, 1972).

Thus, many of the teacher findings suggesting self-serving causal attribution merely are special cases of the more general rule that observers attribute causality to actors but actors attribute it to impersonal causes rather than to themselves. This point is mentioned not only because it casts doubt upon the idea that teachers refuse to face reality, but also because it illustrates the ultimate need for resolution of any conflicts or differences in findings and for a general integration of findings from laboratory studies and from field studies. The problem of generalizing laboratory findings to naturalistic situations is very real, but the present example serves notice that a parallel problem exists in the opposite direction: data taken in educational settings or other naturalistic settings do not always mean what they seem to mean at first, and they may not generalize to other settings. Thus, no single narrow approach to seeking the truth will succeed. Ultimately, the contributions of different approaches must be integrated. This will make possible the formulation of general statements about people, and not just about teachers and students in classrooms.

The Myths and the Realities

We could go on to list other myths about teachers, and we could add an even longer list of half truths and overgeneralizations. However, the material presented in the chapter is sufficient to illustrate certain basic points that we wish to stress before moving into the more specific research presented in the rest of the book:

1) There is a need for classroom research, and research in naturalistic settings generally, to complement the social psychology research conducted in experimental laboratories or other situations which may not generalize to the everyday world. At the same time, the final point in the chapter serves as a reminder that naturalistic research is not automatically more valid or generalizable than laboratory research, because situational factors and other limits on generalization apply here as well. Ultimately, any differences in findings have to be resolved through integrative theories and the identification of special factors operating in certain situations that make for unusual results.

2) Although much information on teacher expectations and attitudes exists, and much information on teacher behavior in classrooms exists, few studies have linked these data to the student behavior associated with them. Without such linkages, the teacher data are open to ambiguous interpretations. They may only confuse issues further by providing advocates with opportunities to interpret them in ways that support their positions. A sampling of the kinds of advocacy that occurs and the ways that seemingly innocent and "scientific" research can be used to support such advocacy is provided by our list of myths. Many of the myths are mutually contradictory and/or easily refuted, but most of them persist nevertheless. Some persist because of sheer ignorance of the facts, but others persist because they have not yet been disproven convincingly.

This points up the need for high quality research that looks at teacher-student interaction and related topics as they are, with an eye towards describing and explaining them. This is very different from advocacy designed to build a case for a particular point of view.

3) Reexamination of the myths, particularly with attention to the fact that teachers often are caught in the middle in such a way that they lose no matter what they do, should help develop a realistic and somewhat sympathetic stance towards teachers. In many ways, they are like policemen and certain kinds of politicians, caught in the middle of social change movements which involve disagreements and strong feelings, put in a position where they are damned if they do and damned if they don't, charged with expectations and responsibilities which they do not want in the first place and cannot fulfill. In any case, and, because of their visibility and position on the firing line, used as scapegoats by individuals looking for someone to blame. We do not wish to cast teachers into the roles of saints, but we do think that it is time for some compassion for their plight and for a more realistic view of what they can and cannot do.

In this spirit, the present book attempts to analyze and explain teacher-student interaction by viewing both teachers and students as they are, not as we think they should be. The point of view taken here reflects the recent trend in child development and educational research to view dyadic interaction between adults and children as a two-way street. Most previous work which concentrated on the teacher and at least implicitly construed teacher-student interaction as involving the effects of a powerful and active adult on a relatively powerless and passive child. We undertook this research with the explicit recognition that students can and do affect teachers. They are far from passive

or powerless, and they show large individual differences. Furthermore, as will be made clear later, most differential teacher expectations, attitudes, and behavior are readily explainable as responses to the differential behavior of students. Self-fulfilling prophecies, teacher biases, and other apparently unjustified teacher reactions to students do occur, but relatively rarely.

4) Thus, in general, we are suggesting that the average teacher reacts to students pretty much the same way that you would if faced by those same students. Bear this in mind as you read the rest of the book, because you will not be reading about "teachers" (individuals different from other adults) so much as you will be reading about normal adults playing the role of teacher (i.e., yourself).

TEACHER EXPECTATIONS

We have described how the misunderstandings and distortions surrounding Rosenthal and Jacobson's (1968) Pygmalion in the Classroom helped create several myths about teacher expectations for student performance. One myth, which didn't last long because it was so obviously false, was the idea that teachers could make anything happen just by predicting it or expecting it. Another myth, which still is around to some degree, has it that teachers are unusually gullible and suggestible, being prone to jump to conclusions and form rigid expectations on the basis of minimal information, or even false information. We noted that this myth says more about the design of studies that produced it than it does about teachers. Studies using real teachers as subjects and studying teacher expectations under naturalistic conditions have produced little or nothing to substantiate the myth.

Now that we have dispelled a few myths about teacher expectations, what can we say about them? This is the focus of the present chapter. We will summarize the literature on teacher expectations, particularly the notion that teacher expectations can function as self-fulfilling prophecies. This brief summary is based on a detailed review and integration presented by Brophy and Good (1974) in the book, Teacher-Student Relationships: Causes and Consequences.

TEACHERS' BELIEFS, EXPECTATIONS, AND ATTITUDES

Social psychologists typically divide impressions of and reaction to others into beliefs, expectations, and attitudes. Beliefs are statements thought to be true (whether or not they are). Certain beliefs concern other people, and these beliefs often form the basis for expectations and attitudes relating to other people. If you believe certain people to be completely honest, you will expect them to tell you the truth. If you value honesty, you also will have a positive attitude toward them. You would have contrasting expectations

and attitudes about people whom you believe to be dishonest.

Expectations are explicit or at least implicit predictions. When they concern other people, they involve predictions about how they will behave. Most research and writing about teacher expectations has focused on expectations for students' achievement, although many other teacher expectations are important, too. These include, among others, expectations concerning student effort and care in completing assignments, and expectations concerning student classroom conduct and acceptance of teacher authority.

Expectations vary in strength, or the degree of certainty with which they are held. Some are merely weak hunches, not even strong enough to qualify as real predictions. Expectations like these are typical when little reliable information is available or when situations are so complex or unpredictable that confident expectations are impossible. Other expectations are true predictions, made with varying degrees of confidence. Some are held with absolute certainty, because they are based on repeated experience or highly reliable information. We all are sure that the familiar cycle of day and night will continue for the rest of our lives, and that two and two always will equal four (even in the metric system!). Rigid, powerful expectations like these usually are well grounded in reality, although it is possible to develop strong expectations even if objective facts do not justify them.

Expectations about other people are essentially cognitive or intellectual predictions about what they will do. In contrast, attitudes are affective or emotional reactions to others. They are described by such terms as positive versus negative, liking versus disliking, or approving versus disapproving. Some attitudes are common, because people tend to react similarly to particular behavior by others. Most people enjoy being treated with courtesy and respect,

but dislike being treated with rudeness or hostility. Other attitudes are more limited or even unique to those who hold them.

It is not unusual to find contrasting attitudes toward the same behavior by other people. Some react very positively to people who avoid flattery and always "tell it like it is." Others prefer pleasant illusions to brutal truths. Like expectations, attitudes can vary from extremely vague and weak to extremely clear and strong. Also, clear, strong attitudes usually are understandable reactions to particular behavior, but it is possible to form strong attitudes toward people without being able to point to the reasons for them (or, at least, without being able to give convincing reasons).

When rigid but inappropriate expectations or attitudes do develop, the person usually is not aware of the problem. Except for people with serious adjustment problems who cannot or will not face reality, awareness of discrepancies between expectations or attitudes and objective facts leads to change, usually rapid change. Incorrect expectations or attitudes are adjusted to fit the facts, as they are now perceived. Thus, awareness is the key to the formation and maintenance of accurate expectations and attitudes, in teachers and in people in general.

In summary, beliefs, expectations, and attitudes can vary both in strength and in degree of objective justification. Where people are not aware of the facts, inappropriate beliefs, expectations, and attitudes can be formed and maintained. These can be quite specific and very strong, but clearly wrong, although this combination is rare. Among other things, heavy reliance on defense mechanisms to avoid awareness of reality is needed to support clearly erroneous impressions over long time periods.

Regardless of the facts, beliefs, expectations, and attitudes tend to support one another. We all have a need for consistency among our beliefs, expectations, and attitudes. This need for consistency enables us to attend to information selectively, so as to make our beliefs, expectations, and attitudes as consistent with one another as possible. We may even use defense mechanisms to avoid becoming aware of information which would introduce conflict or provide disconfirmation, if the need to sustain a particular false impression is strong enough (Festinger, 1957; Bem, 1970).

When our impressions and perceptions are accurate, our beliefs develop systematically as we acquire more information. Expectations and attitudes form as experience teaches us what can be predicted and how we feel about certain experiences. Here, beliefs, expectations and attitudes, accurately reflect our experiences and preferences. In fact, they could be predicted by someone who knew what experiences we would encounter and what preferences we had developed.

The situation is different with unjustified beliefs, expectations, or attitudes, especially when they are held strongly and in combination with one another. Here, selective perception and defense mechanisms are likely. Consistency needs operate so that, if any one of these three types of impressions is held strongly, the other two types may be affected. We may use defense mechanisms to insure that only "safe" or "acceptable" information comes to our attention. We may remain unaware of contradictory information, even when it is obvious to everyone else.

Thus, if for some reason we develop a strong negative attitude toward certain people, we may support this attitude by developing negative expectations about their probable behavior and a generally negative set of beliefs about them. Our attitude could cause us to see only their bad qualities, believe bad

things about them which are not even true, or both. Similarly, a strong but mistaken belief about people can cause us to develop expectations and attitudes about them which are compatible with our beliefs, and strongly held but erroneous expectations can cause us to develop consistent attitudes, and belief systems.

In summary, beliefs, expectations, and attitudes are very responsive to our need for consistency, sometimes at the expense of objective truth. When interpersonal impressions exist which are strong and resistant to change, the stage is set for self-fulfilling prophecy effects. People usually need consistency not only among their beliefs, expectations, and attitudes, but also between these internal events and external behavior. Our behavior toward others usually is consistent with our impressions of them, even where these impressions are false. If we systematically treat people as if they were something other than what they are, eventually they may begin to conform to our expectations, even though these expectations were incorrect initially. This is how expectations (and beliefs and attitudes as well) can function as self-fulfilling prophecies.

Everyone holds interpersonal impressions that affect, and are affected by, their interactions with others. This is basic to the human condition. Thus, the relationships between teacher impressions of their students and teacher behavior toward students are special cases of general human psychology. For everyone, the important point here is to maintain awareness of impressions and keep them flexible, so that they are changed in response to new facts or changes in existing situations.

SELF-FULFILLING PROPHECIES

Pygmalion in the Classroom created interest in the possibility that teachers' expectations for student achievement might function as self-fulfilling

prophecies, causing students to achieve what teachers expect them to achieve. This was the first widely publicized application of the concept of self-fulfilling prophecies to education, although the concept itself had been around for a long time. The general idea that prior possession of a belief, expectation, or attitude could help make it come true has been part of folk wisdom extending back at least to the Bible. Furthermore, the concept of the self-fulfilling prophecy was labeled and defined by Merton (1948) long before the recent flurry of interest in it. The concept is worth considering, both to appreciate its complexities and to see its applications and limits.

Appreciation of its complexities is important so that myths and oversimplifications such as "just make a prediction and it will come true" will be avoided. On the other hand, it is important to recognize valid applications of the concept as well as distortions of it. Unfortunately, criticism directed at Pygmalion in the Classroom and at certain obviously false distortions of the self-fulfilling prophecy concept has left many people with the impression that the concept is not valid. This is not the case. As Merton defined it, the concept is both scientifically acceptable and easily understandable.

A self-fulfilling prophecy is a belief or expectation which is initially false, or at least not necessarily true, but which is made to come true by people acting on the assumption that it is true. The processes involved are not magical or even mysterious. The key point to remember is that beliefs or expectations do not become true simply because they are held; they become true because people act on the assumption that they are true. This behavior affects the object of the belief or expectation, so that events progress along a different path than they might have taken if a different belief or expectation had been held in the first place. Systematic behavior based upon a belief or

expectation, and not merely the existence of a belief or expectation, brings about self-fulfilling prophecy effects.

Merton used bank failures as an example, and this still is one of the best illustrations of the concept. As you know, banks do not stockpile the money that people deposit in accounts. Instead, they reinvest most of this money by loaning it or purchasing stocks and bonds. This way, most of the money is used to generate more money through interest and dividends. As a result, the bank ends up with more money than it would if it simply stored deposits.

Banks keep available only enough cash to handle daily transactions. They could not give all depositors their money, but they do not need to because only a few depositors withdraw from their accounts each day.

Merton's example concerns bankruptcy induced by a self-fulfilling prophecy based upon a false belief. Imagine what would happen to a bank if false but persistent rumors were spread claiming that the bank was about to go bankrupt. Let us say that the bank was in fine financial condition, so that the rumors were completely false when they began. However, suppose that, for whatever reason, its depositors believed the rumors and, worse yet, acted on them by withdrawing their money and putting it in a "safer" bank. In time, the bank's financial position would deteriorate, and bankruptcy would result.

This is a classical self-fulfilling prophecy. The initial belief was false, but enough people acted upon it to make it come true. The behavior that made it come true was based directly on the belief itself, but note that the outcome stemmed from behavior, not mere belief. If the depositors had not acted upon the belief (or if they had investigated and found that it was false) the prophecy would not have been fulfilled.

In the classroom, teacher impressions of students can act as self-fulfilling prophecies. If teachers believe that certain students are bright and others are dull, they may teach in ways that help confirm these beliefs. "Bright" students may get called on more often and be given more challenging work, for example, so that they end up achieving more. Other students who are capable of the same achievement will not fulfill their potential if they do not ever get opportunities to learn about or work on certain things. If this happens because their teachers don't think they can handle the work and therefore don't even make attempts to find out, their reduced achievement will have occurred as a result of teacher beliefs and expectations acting as self-fulfilling prophecies.

Everyday examples can be seen in certain personality types who "make things happen" because of their attitudes towards others. People who are optimistic about life in general and people in particular expect to like others and expect others to like them. Partly because of this, they are optimistic, cheerful, pleasant, and generally socially attractive in their interactions with others. This will make them popular with others, confirming their expectations.

Other people are pessimistic and mistrustful, expecting others to be selfish in their motives and devious, perhaps dangerous, in their behavior. Such people are likely to act this way themselves. Even if they stop short of this pattern of behavior, they may develop social anxiety, suspiciousness, distance, or a general avoidance of close relationships. Such behavior will make others uneasy at the very least, and it may well produce suspiciousness or hostility. Here again, behavior stemming from expectations can make these expectations come true.

Note again that it is behavior, not just expectations, that makes the difference. Some people who are fundamentally cynical about others try to make

themselves as socially attractive as possible in order to avoid the negative consequences they expect from people who dislike them. Those who are clever enough to do this without revealing their underlying cynicism and selfish motives might become popular because of their efforts to do so. Similarly, someone who expects to be rejected because of speech difficulties might enter speech therapy to eliminate the problem, and thus eliminate the fear of rejection.

These examples reveal how expectations or attitudes alone do not necessarily lead to self-fulfilling prophecy cycles. Self-fulfilling prophecies are brought about by systematic and continuing patterns of behavior which are consistent with expectations. Very different outcomes result when people take action to prevent or counteract expected problems.

Teacher Expectations Can Act as Self-Fulfilling Prophecies

The Oak School experiment described by Rosenthal and Jacobson (1968) in Pygmalion in the Classroom was an attempt to demonstrate that teacher's expectations for student achievement can function as self-fulfilling prophecies. They claimed that teachers led to expect unusually good performance from certain students did get unusually good performance from these students, and that this was because they expected to do so. Their study has been exposed to a variety of criticisms (see Elashoff and Snow, 1971), leading many to reject it. However, a great many other studies done since have demonstrated clearly that teacher expectations can have self-fulfilling prophecy effects. Some of these have been conducted by the authors of Pygmalion in the Classroom, but most have been done by others. A variety of findings by many investigators using different methods are convincing, although the data show only that teachers' expectations can have self-fulfilling prophecy effects, not that they always do

have such effects. Furthermore, such effects appear only for certain teachers. Some teachers' expectations apparently do not affect their teaching behavior or its outcomes.

Initial doubts about the reality of teacher expectation effects were fueled not only by criticism of Pygmalion in the Classroom, but also by several replication attempts which failed. Also, a study by Fleming and Antonnen (1969) showed that teachers did not even believe inflated IQ scores, let alone act on them. These replication failures are still relevant today, not for dismissing the reality of teacher expectation effects, but for providing perspective about them.

Teacher expectations effects have been demonstrated clearly and some of the processes that mediate them have been identified. However, these effects are relatively weak in studies of practicing teachers and conducted over long time periods such as an entire semester or school year (Brophy and Good, 1974). Effects are particularly weak when the student variables are IQ tests or standardized achievement tests. Effects are stronger on more limited tests covering a single teaching session or a few sessions spread over a short time (Brophy and Good, 1974; Elashoff and Snow, 1971).

In fact, to this day, no one has replicated the original Rosenthal and Jacobson (1968) findings. This is partly because they attempted to show expectation effects under conditions which since have been shown to be the most difficult: they used a general test of intellectual abilities as their student measure, and the study spanned almost a whole school year. Also, replication of this particular study requires providing phony information to teachers. But teachers are unlikely to believe information which conflicts with their own observations. Furthermore, the publicity given Rosenthal and Jacobson's study has sensitized

most teachers to the topic of expectation effects, and probably has made them less susceptible to phony information than they ever were.

Even if Rosenthal and Jacobson's results never are replicated, though, many other studies have established the reality of teacher expectation effects in certain teachers and under certain conditions. Some of these involved provision of phony information to teachers. Others involved interviewing teachers to determine their naturalistically formed expectations and then seeing if they treated students differently in ways that would produce self fulfilling prophecy effects. Many studies of both types have been conducted. We will examine two of each to illustrate the kinds of findings that they have produced.

Experimental Studies

Beez (1968) provided one of the simplest and clearest demonstrations of teacher expectation effects. This was an experimental study in which students taking graduate education courses were asked to tutor Head Start children. Tutoring involved teaching the children words printed on cards. All tutors received the same 20 word cards. They were asked to teach their Head Start child as many words as they could in a single ten-minute session.

The Head Start children were assigned randomly to experimental and control groups. Half of the tutors were led to believe that they were assigned a high ability child, and the other half were led to believe that they were assigned a low ability child. The tutors had not seen the children previously, and they only interacted with them for ten minutes, so most of them apparently believed this information. At any rate, clear cut expectation effects were obtained.

Children taught by tutors with high expectations learned an average of about six words, while those taught by tutors with low expectations learned

an average of only about three words. Thus, in this case, the experimental group learned roughly twice as much. Furthermore, observational data from this study showed that the difference was due to expectation effects. Tutors with high expectations tried to teach more than tutors with low expectations.

The high group tried to teach an average of 10.4 words, but the low group only tried to teach an average of 5.7 words. Thus, the children in the high group learned more mostly because they were taught more.

Also, the tutors in the low group spent more time explaining the meanings of the words and providing multiple examples, and they spent more time on non-teaching activities. As we will see, this behavior is typical under low expectancy conditions. Finally, interview and questionnaire data obtained from the tutors after the experiment showed that the information was believed and acted upon. Tutors led to have high expectations rated their children higher, not only on achievement, but also on social competence and general intellectual ability. They thought that the difficulty level of the task was just about right for the students. In contrast, tutors led to have low expectations rated their students lower on the rating scales and saw the task as much too difficult. In summary, the Beez study provides a convincing demonstration that teacher expectations can have self-fulfilling prophecy effects, and that these can be quite potent under certain conditions.

Beez showed teacher expectation effects on both student achievement and teacher behavior. Certain studies show effects on one but not the other, either because only one is measured, or because effects show up in only one area (usually teacher behavior). For example, Kester and Letchworth (1972) studied the interactions of 23 teachers with 150 average ability seventh graders who had

been identified to the teachers as being especially bright. Observational data revealed that, compared to their behavior towards control students, teachers spent more time with the "bright" students, talked with them more often, and generally were more supportive toward them. These effects were enhanced when the "bright" students responded reciprocally by becoming more initiatory and supportive toward the teachers.

This study revealed a general change in teacher behavior towards students identified as "bright," and also a more specific and extreme change in patterns of reciprocal interaction with students in the "bright" group. They responded to better teacher treatment by becoming more positive in their own interactions with the teachers. These data demonstrate how teacher expectations can affect teacher behavior, and how teacher behavior can affect student behavior. Even so, the changes in teacher-student interaction patterns were not powerful enough to make a significant difference on measures of student IQ, achievement, or attitudes.

These two studies are representative of those which find positive results when teacher expectations are induced through false information or other experimental manipulation. Effects sometimes are seen only in outcome measures, sometimes only in behavior measures, and sometimes in both kinds of measures, as in the Beez (1968) study. Such data are convincing in establishing the reality of some teacher expectation effects, although many experimental studies have not produced positive results (Brophy and Good, 1974).

Naturalistic Studies

Several studies have approached the topic of self-fulfilling prophecy effects in teacher expectations by relating outcomes to preexisting, naturalistically

formed teacher expectations. Instead of trying to manipulate teacher expectations experimentally, this approach involves determining what expectations teachers have and relating these to other measures that suggest self-fulfilling prophecy effects. One of the first studies of this type was conducted by Brophy and Good (1970b). It will be discussed in the following section, because it was designed primarily to identify the processes which mediate teacher expectation effects, not just to show that such effects exist. To illustrate how naturalistic methods have been used to show the existence of teacher expectation effects, we will discuss two of the more ingeniously designed studies of this type.

Palardy (1969) related teacher expectations concerning sex differences in reading achievement to scores on reading achievement tests. Several months prior to the study, he gave a questionnaire to some first grade teachers, asking them questions about a variety of issues. One question concerned sex differences in first grade reading achievement. Using response to this questionnaire item, Palardy identified one group of teachers who clearly expected girls to do better than boys, and another group who expected no sex differences at all. Then he matched five pairs of teachers, one from each group, according to sex, race, teaching experience, types of schools in which they taught, and textbook used for teaching reading in the first grade. At the end of the next school year, he compared the reading achievement scores of their students. Notice that this study did not involve any actual treatment at all. The teachers did not interact with the researcher and did not even know that the reading achievement of their students was being studied.

The data provide convincing evidence for expectation effects. Comparisons of reading achievement scores (adjusted for IQ) showed no differences among

teachers who expected no differences. However, scores were higher for girls in the classes of teachers who expected girls to do better than boys. Furthermore, the scores for girls in the latter classes were similar to the scores for both boys and girls in the former classes, but the scores for boys were lower. Thus, both groups of teachers got the sex differences they expected, although the group who expected no sex differences also got better results overall. Given the clever design of this study, the careful matching of teachers on relevant characteristics, and the adjustment of student reading scores for ability, it is difficult to attribute the results to anything other than teacher expectations.

Doyle, Hancock, and Kifer (1972) obtained similar results in a study of the effects of teachers' expectations concerning both sex and IQ. Working in schools where IQ tests were administered in the first grade routinely, they asked first grade teachers to estimate their students' IQ's shortly before the tests were given. Although their estimates correlated highly with measured IQ, the teachers systematically overestimated the IQ's of girls and underestimated the IQ's of boys. These differences between teacher estimates and actual scores proved to be important.

First, reading tests given at the end of the school year showed that students whose IQ's had been overestimated by their teachers had higher reading achievement scores than their IQ's predicted, and students whose IQ's were underestimated by their teachers had lower achievement scores than their IQ's predicted. Thus, in both sexes, students for whom teachers had had relatively high expectations did better than students for whom teachers had relatively low expectations. These interesting student data were supplemented by differences among teachers which provide more evidence that the results were due to teacher expectations. The teachers were divided into high and low groups

according to whether they generally overestimated or generally underestimated their students' IQ's (regardless of sex). Comparisons revealed that students of overestimators generally achieved more than students of underestimators, even when achievement scores were adjusted for IQ. This suggests that teacher expectations can affect the achievement levels of entire classes, not just those of individual students.

As with the experimental studies, these naturalistic studies are representative of those which showed teacher expectation effects. Naturalistic studies show such effects more regularly than experimental ones, but teacher expectation effects are not always obtained. Nevertheless, the weight of the evidence from both types of studies suggests that teacher expectation effects are real and can occur, although they do not occur necessarily or always and they differ in strength and type of outcome (Brophy and Good, 1974).

What Produces Teacher Expectation Effects?

While some researchers were concentrating on establishing whether or not teacher expectations could function as self-fulfilling prophecies, others, already convinced that they could, designed studies to find out how the process worked. Such information is needed in order to give teachers and future teachers useful suggestions about how they can use positive expectation effects to their advantage and minimize undesirable negative expectation effects. In addition, the widespread tendency to spread myths about teacher expectation effects, and in particular the tendency to portray them as mysterious or magical, underscores the need for analysis of the processes involved.

Rosenthal and Jacobson (1968) provided no such information, because their study did not involve any observation of the teachers. Beez (1968) did provide

some information about the processes involved. Teachers with higher expectations tried to teach more material, spent more time on task, and moved students along at a brisker pace than teachers with low expectations. Other early studies also provided information about how the process worked. However, the major impetus for research designed specifically to investigate the processes mediating teacher expectation effects was provided by a study by Brophy and Good (1970b).

Following Merton (1948), Brophy and Good assumed that if expectation effects were real, they would be produced by systematic teacher behavior, not merely by teacher expectations. These assumptions were developed into an explicit model for explaining expectation effects (paraphrased from Brophy and Good, 1970b):

- 1) Early in the year, teachers form differential expectations for student performance;
- 2) Consistent with these differential expectations, teachers behave differently toward different students;
- 3) This differential teacher behavior communicates to each individual student something about how he or she is expected to behave in the classroom and perform on academic tasks;
- 4) If teacher treatment is consistent over time, and if students do not actively resist or change it, it will likely affect student self concept, achievement motivation, level of aspiration, classroom conduct, and interaction with the teacher;
- 5) These effects generally will complement and reinforce the teacher's expectations, so that students will conform to these expectations more than they might have otherwise;

6) Ultimately, this will make a difference in student achievement and other outcomes, indicating that teacher expectations can function as self-fulfilling prophecies.

This model, stressing that teacher expectation effects should be mediated through observable behavior, provided direction about potentially profitable research relating to these mediating processes. In the first of a series of studies, Brophy and Good (1970b) began by attempting to demonstrate the middle stages of the model, relating preexisting teacher expectations to differential teacher treatment of different students and differential student response to this treatment. It is obvious that teachers have different expectations for different students, so there was little point in demonstrating this. However, it did seem worthwhile to see if these differential expectations led teachers to treat individual students systematically and predictably in ways that seemed likely to produce expectation effects.

Combining common sense considerations with what research was available, Brophy and Good hypothesized that differential teacher expectations could be revealed by such measures as time spent with students, amount and difficulty level of material taught, and positive and negative affect (emotion). Differential patterns of patience, determination, and expectations of ultimate success vs. resignation to ultimate failure and a tendency to give up easily would indicate self-fulfilling effects in teacher behavior. Once a list of promising behaviors to investigate was compiled, existing classroom observation systems were examined. Unfortunately, none were appropriate for the purpose at hand.

The problem was that almost all coding systems up to that time were keyed to the teacher. If student behavior was coded at all, it typically was coded for "students" as an undifferentiated group rather than separately for individual

students. Consequently, in order to get the individual student data that the research required, they developed the dyadic interaction observation system (Brophy and Good, 1970a). A major feature of the system was its focus on dyadic interactions between teachers and individual students. Each student's interactions with the teacher were coded and tabulated separately, so that different teacher interaction patterns with different students could be identified and analyzed.

Another important feature was that interactions initiated by teachers were coded separately from interactions initiated by students, and events occurring in sequence were coded with the sequence retained. This made it possible to separate interaction patterns due to teacher behavior from those due to student behavior.

These features are central to research in classrooms. First, because the model specified different teacher behavior towards different students, classroom observations had to be tabulated separately for each student if this aspect of classroom interaction were to be studied at all. Also, knowledge of the initiation and sequencing of interactions is vital to the interpretation of the meaning of any differences observed. Simple frequency counts are ambiguous without this information.

For example, suppose that a teacher criticizes Jim only once during 10 hours of classroom observation, but criticizes Bill 15 times? Is the teacher showing favoritism towards Jim and/or picking on Bill? We cannot answer on the basis of praise frequency alone, because we do not know how Jim and Bill act in the classroom or about the quality of their work. If they are similar, the teacher probably is favoring Jim and/or picking on Bill. However, if Jim is a talented and well motivated student who does good work and seldom mis-

behaves, and if Bill is lacking in both talent and motivation so that he rarely does work and constantly is causing trouble, the differential teacher behavior is quite understandable.

In fact, it is possible that the teacher is more likely to criticize Jim than Bill for a given reason, but that this tendency doesn't show up because Jim practically never gives the teacher reason to criticize. Meanwhile, Bill gives reason so often that he virtually insures frequent criticism. This is just one of many examples that could be given to show that observational data from the classroom often are ambiguous in meaning and thus difficult to interpret. We will return to this point many times in discussing situations where different conclusions would be drawn depending upon how data are interpreted.

For the moment, though, let us return to the Brophy and Good (1970b) study of how teacher expectation effects work. Achievement expectations held by four first grade teachers were measured by asking these teachers to rank their students according to general achievement. The instructions deliberately were vague, to encourage teachers to rank on the basis of general impressions rather than specific test scores. The data were collected early in the spring, so that the teachers had had ample time to interact with their students and form impressions about their ability and achievement potential. The rankings were used to identify six high expectation students and six low expectation students (three boys and three girls) in each classroom. Then, the classrooms were observed for two mornings and two afternoons each, and teacher interactions with these 12 students were recorded.

This study revealed many differences between the high and low expectation groups, some of which could be interpreted as indicating self-fulfilling prophecy effects, and some of which could not. The latter group of findings included

the following: high expectation students raised their hands more often when teachers asked questions; they initiated more private interactions with the teachers; they were criticized for misbehavior less often; they gave correct answers more often; they had fewer problems in reading during reading group; and they received more praise and less criticism. All of these differences are consistent with the idea that the teachers were acting on their differential expectations so as to produce self-fulfilling prophecy effects. However, none of these group differences shows this convincingly. Each difference could have resulted entirely from differences between the groups of students rather than from discriminatory teacher behavior.

However, in addition to these ambiguous differences, there were differences on measures that took into account student behavior and seemed to imply self-fulfilling prophecy effects. First, teachers were more likely to praise correct answers and less likely to praise wrong answers or failures to respond when interacting with high expectancy students, even though these students responded successfully more often. Thus, the praise and criticism differences appeared not only in frequency counts, but in the percentages of correct answers followed by praise and the percentages of failures followed by criticism. This indicates that the teachers were least likely to praise and most likely to criticize the very students who most needed patience and encouragement.

Another indication was the degree to which teachers paid attention to student answers and gave specific feedback in response to them. Teachers failed to give feedback to high expectation students only about 3% of the time, but they failed to give feedback to low expectation students almost 15% of the time. Thus, the teachers were least likely to give feedback to the students who needed it most.

A third indication came from data on teacher persistence in seeking

correct answers from students. When a student failed to answer a question or could not read a word in reading group, teachers were much more likely to try to elicit the answer by repeating the question, by giving a clue, or providing some other kind of help if the student was a high expectation student. When faced with such failure situations involving low expectation students, they were more likely to give them the answer or to call on someone else than to persist in trying to get the answer. Teachers were more persistent in seeking improved responses from high expectation students, but more likely to give up easily when dealing with low expectation students.

These data indicate that teachers were responding to their differential expectations by systematically treating high and low expectation students differently. Furthermore, the differences observed suggest that high expectation students were being taught in ways likely to maximize their achievement, but that low expectation students were being taught in ways likely to minimize it. The findings indicate some of the ways that teacher expectations can function as self-fulfilling prophecies (when they do).

These general results were not always replicated in subsequent studies, although some teachers in the studies that did not replicate the group differences for the sample as a whole showed similar patterns (Brophy and Good, 1974). In any case, this study and later ones identified several mechanisms mediating teacher expectation effects, and studies conducted by others, including Rosenthal, identified additional factors. Eventually, Rosenthal (1973) developed a four-factor theory of positive expectation effects, combining the findings of several investigators. He suggests that, rather than trying to avoid expectations, teachers should project positive expectations and thus get better results than they might otherwise. According to Rosenthal, teachers will maximize positive

expectation effects on students if they:

- 1) Create particularly warm social-emotional relationships with these students (climate);
- 2) Give these students more feedback about their performance (feedback);
- 3) Teach these students more material and more difficult material (input);
- 4) Give these students more opportunities to respond and to ask questions (output).

Rosenthal's four-factor model does seem to bring together many of the findings concerning expectation effects. However, there are many more specific findings. Brophy and Good (1974) included the following among teacher behaviors that often are associated with low expectations:

- 1) Waiting less time for low expectation students to answer questions;
- 2) Prematurely giving up on low expectation students when they fail to answer questions correctly (giving them the answer or calling on someone else rather than trying to elicit the answer from them);
- 3) Rewarding inappropriate behavior of low expectation students (praising marginal or even wrong answers or poor work, something that tends to discourage such students if they become aware of it);
- 4) Criticizing low expectation students more than high expectation students in parallel situations, and/or criticizing their misconduct but not their poor academic work;
- 5) Failure to praise low expectation students in situations where other students typically are praised (in particular, failure to notice and praise hard work or improved performance which has resulted from persistent effort);
- 6) Failure to give low expectation students feedback concerning the correctness of their responses or their work, or failing to give them feedback suf-

ficiently specific to be useful;

7) Calling on low expectation students less often;

8) Calling on low expectation students only for easy questions;

9) Paying less attention to low expectation students except when they are misbehaving (thus missing chances to provide reinforcement by attending to good work and failing to monitor what these students are doing and provide feedback regularly and quickly);

10) Segregating low expectation students in seating patterns so as to place them farthest away from the teacher;

11) Generally expecting and demanding less, and less difficult, work from low expectation students;

12) Allowing other students to call out answers if the original respondent hesitates (this enables the brighter and more motivated students to get most of the public response opportunities and it may demoralize those slower students who are trying to respond and/or reinforce those slower students who are trying to avoid responding).

Brophy and Good, noting that there were individual differences among teachers in whether or not expectation effects appeared, and in the kinds and degree of such effects when they did appear, suggested that teachers could be broadly classified into three types:

1) Proactive teachers. These teachers stay aware of their expectations and keep them flexible, so that they change as students change. Positive expectation effects like those suggested by Rosenthal are most likely in their classrooms, especially for low achievers.

2) Reactive teachers. These teachers simply react to student behavior. Their expectations are shaped by students, and not vice versa. They show

few if any expectation effects, although many measures will reveal that high achievers have better experiences in their classrooms than low achievers.

3) Overreactive teachers. These teachers have strong and relatively rigid expectations, so that they are less likely to change expectations if students change, and most likely to have expectation effects. Some of these will be desirable, if the teachers have high (but not too high) expectations for students that purely reactive teachers would be less impressed with. However, undesirable expectation effects are most likely in the classrooms of overreactive teachers, who may make little effort to teach low achievers because they have rigid low expectations for them.

These "pure types" are stereotypic, of course; most teachers vary in the strength and flexibility of expectations they hold for different students. This is a major focus of the book.

Appropriate Teacher Expectations

Note that teacher expectation effects can be either desirable or undesirable. To the extent that teachers treat students as if they were somewhat more talented or motivated than they actually are, the teachers might produce positive expectation effects resulting in improved student achievement or motivation. To the extent that teachers treat students as less able or motivated than they really are, teachers might produce undesirable expectation effects, so that students achieve less than they are able to, or lose some of their motivation. Thus, the practical problem facing teachers is not elimination of expectation effects. Instead, it is maximizing positive or desirable expectation effects and minimizing negative or undesirable ones.

This cannot be accomplished by doing anything so simple as "deciding" to expect good work and good motivation from everyone, or even "deciding" to have the same expectations for all students. Students do differ. It is impossible for teachers to have the same expectations for different students.

Furthermore, expectations cannot be manipulated easily as the "just make a prediction and it will come true" myth suggests. Experimental studies involving attempted induction of teacher expectations show that expectation effects do not appear when the teachers do not acquire the intended expectations. To put this another way, one necessary (but not sufficient) condition which must be present if teacher expectations are to function as self-fulfilling prophecies is that the teacher expectations be real. The beliefs supporting the expectations must be genuine (really thought to be true), and the expectations themselves must be genuine expectations rather than predictions or guesses made with little conviction.

As a rule, it is more important that teacher expectations be realistic, and in particular flexible, than that they be favorable. Unrealistically high expectations can backfire if teachers act on them in ways that bring frustration because students cannot live up to them. On the other hand, realistic teacher expectations based on an accurate assessment of student characteristics help guide decision making about meeting individual needs.

It also is helpful, of course, if teacher expectations and aspirations are as high as they realistically can be, and if they are adjusted upward as students improve. Keeping expectations realistic will prevent the frustration that comes when too much is expected, but keeping expectations relatively high within what is realistically possible will help maximize positive or desirable expectation effects.

Teacher Awareness

Besides being realistic, teacher expectations must be flexible if they are to have desirable consequences. Teachers must monitor and evaluate student progress continually so that any significant changes will be noticed. Ultimately, the key here is teacher awareness. Teachers who remain continuously aware of what their students are doing, and who note any changes in typical patterns, will be able to keep their expectations up to date, realistic, and as positive as possible. In contrast, teachers who do not remain aware of what is happening may begin to treat students in predictable and routinized ways, acting as if the students were stereotypes of expectations formed earlier which may or may not be correct today.

Summary

Pygmalion in the Classroom was only one of a large and growing number of studies relating to teacher expectations and self-fulfilling prophecy effects. The cumulative results of studies by many different investigators indicate that teacher expectations can act as self-fulfilling prophecies, and much is known about how the process works when it is in operation. However, these studies also indicate that self-fulfilling prophecy effects are neither typical nor particularly strong in most cases. There has been speculation about the teacher attributes that may be involved here, but little is known about the teacher individual differences that affect the probability of self-fulfilling prophecy effects. Readers interested in these issues, and in a detailed review of the literature on teacher expectations, should consult Brophy and Good (1974).

While some investigators were establishing that teacher expectation effects do in fact exist, others were concentrating on identifying the mechanisms which

explain them. Models have been proposed, and much has been learned about how teacher expectations are communicated to students through differential teacher behavior. The highlights of this information and its implications for maximizing positive expectation effects and minimizing negative ones were summarized in this chapter.

Studies of how expectations are communicated form one of three primary lines of inquiry which ultimately led to the Student Attribute Study described in this book. A second line of inquiry, research on the behavioral expression of teacher attitudes toward students, is described in the following chapter.

Shortly after Pygmalion in the Classroom set off a flurry of research on teacher expectations, Silberman (1969) published a study of how teacher attitudes towards students are expressed in observable classroom behavior. His study was similar in conceptualization and design to the Brophy and Good (1970b) study of teacher expectations, and questions dealing with the relationship of teacher attitudes to teacher behavior could be related to their model for studying teacher expectation effects. Furthermore, the dyadic observation system used in the expectation research seemed equally applicable to attitude research, with minor alterations. These factors, combined with interest in the questions Silberman was asking, led to a replication and extension of his work by Good and Brophy (1972). Subsequent research relating to teacher attitudes conducted by the present authors and other colleagues eventually culminated in the Student Attribute Study.

Recall that attitudes, along with beliefs and expectations, are impressions formed about people from observing and interacting with them. Expectations are predictions about their future behaviors, and attitudes are emotional reactions to them. Attitudes, like expectations, can act as self-fulfilling prophecies if they are strong and rigid enough. If we like people, we probably will treat them in ways likely to cause them to like us, and vice versa. Our attitudes affect our behavior, and our behavior leads to responses by others that are likely to reinforce our attitudes.

The inspiration for Silberman's (1969) study was an earlier study by Jackson, Silberman, and Wolfson (1969) on student saliency. In that study, 32 elementary school teachers were asked to name all students from

memory. This proved to be very difficult for some teachers. May required much time and help before they could remember all their students, even though they spent five hours a day with them and had been teaching them for many months.

Students named first were considered "salient," and students named last were considered "non-salient." Once these students had been identified, the teachers were questioned about their attitudes and opinions concerning their most salient boy and girl and their least salient boy and girl. The teachers' comments were tape recorded and later analyzed for "signs of emotional involvement" with the students. Unsurprisingly, there were more signs of involvement in the teachers' comments about salient students than in their comments about non-salient students. There also were more signs of involvement in their comments about boys, although more of these were negative ones indicating negative attitudes or disapproval. The girls averaged fewer signs of involvement, but had a greater percentage of positive statements indicating approval or liking. These data fit with data from many other sources indicating that boys generally are more salient than girls but also are more likely to provoke negative reactions from teachers. These sex differences will be discussed in greater detail in the next chapter.

In analyzing the teachers' comments, Silberman noticed two common themes: the degree to which teachers liked versus disliked students, and the degree to which teachers were concerned about students. This led to a follow up study of teacher behavior towards four types of students:

1) Attachment students. These were students named when teachers were asked, "If you could keep one student another year for the sheer joy of it, whom would you pick?"

2) Concern students. These were students whom the teachers named when asked, "If you could devote all your attention to a child who concerns you a great deal, whom would you pick?"

3) Indifference students. These were students whom the teachers named when asked, "If a parent were to drop in, unannounced, for a conference, whose child would you be least prepared to talk about?"

4) Rejection students. These were students whom the teachers named when asked, "If your class was to be reduced by one child, whom would you be relieved to have removed?"

Silberman (1969) asked these questions of 10 third grade teachers, who named one student in response to each question. This yielded a total of 10 students in each group, one in each class. Classes then were observed for 20 hours each, to see what these students were like and how the teachers interacted with them.

Attachment students generally were conforming and rewarding to the teachers. They often volunteered to answer questions, usually answered correctly, and made relatively few demands upon the teachers' energies. In general, they were model students. However, despite their excellent classroom behavior and even though the teachers nominated them as their favorites, there was little evidence of preferential treatment or overt favoritism. Teachers did not call on them more frequently, despite their more frequent

handraising, and they did not interact with them more often. They did praise them more often, but this probably was due to their better general performance rather than to teacher favoritism.

In a later discussion, Silberman (1971) said that he thought he saw more subtle evidence of favoritism. For example, attachment students may not have been praised more often, but Silberman thought that they were praised more intensively and more publicly, as if they were being held up as examples to their classmates. Also, although they were not called on more often, he felt that they were asked to share their ideas with the class more often. He also believed that they were criticized less harshly when they broke the rules.

Even if all this is true, it hardly constitutes the clear cut favoritism connoted by a term like "teacher's pet." Remarks by some of the teachers suggest an explanation for this: they seemed to be not only aware of their attitudes toward these students but determined to avoid showing favoritism, because they did not want to be unprofessional or unfair. In summary, Silberman found little evidence of favoritism toward attachment students in his actual data, but he got the impression that these students were favored in subtle ways even though the teachers consciously tried to avoid favoring them at all.

The story was very different with students in the concern group. Teacher concern was overt and obvious. These children made extensive but appropriate demands on the teachers. They obeyed classroom rules and tried to do their assignments, but they were slow students who needed frequent help and supervision. Teachers responded by giving them more attention than other children,

initiating contacts with them more often, and allowing them to approach them for help more freely. The teachers also seemed to consciously try to pay attention to their efforts and praise them when they did well. Thus, these children needed a lot of help, but the teachers were willing to provide it. Their concern was active and positive. However, sometimes they did express their attitudes openly by making statements like "I don't know what to do with you next."

The only thing that students in the indifference group had in common was the fact that they did not interact with the teachers very often. However, Silberman (1971) later stated his impression that teacher contacts with these students were less intense as well as less frequent. The teachers seemed to have briefer interactions with these students, and to be less emotionally involved when they did interact with them. The general impression was one of passive indifference. That is, the indifference students just were not noticed or thought about as much as the others. This differs from a more negative or active indifference involving a degree of rejection and deliberate avoidance or ignoring. In summary, the data and impressions about indifference students were what one would expect for students that teachers could hardly remember. However, they were disappointing in that they provided no clues as to why these students were the way they were or why the teachers reacted to them the way they did.

In contrast to their careful attempts to avoid showing favoritism toward attachment students, the teachers clearly and obviously showed hostility toward rejection students. Most of these students misbehaved often, which

probably was a major reason for teacher rejection. Silberman described them as almost continually "under surveillance," and he described the teachers as quick to criticize or punish them for misbehavior. The teachers interacted with rejection students frequently, but this was because of the many interactions that occurred because teachers were trying to control misbehavior.

The teachers appeared to be conflicted about their attitudes toward rejection students, just as they were about attachment students. For example, these students received high rates of praise in addition to high rates of criticism, and Silberman thought that the teachers both praised and criticized these students in a public way, as if to hold them up as examples to the rest of the class. The teachers seemed to do this only in positive ways with attachment students, but in both positive and negative ways with rejection students.

The contrasting patterns of treatment of these four types of students were fascinating, although they raised more questions than they answered. What were the indifference students like, and why didn't the teachers become concerned about them? Why did the teachers take a special liking to the attachment students? Surely, they were not the only conforming and high achieving students. Was Silberman correct in his impression that the major difference between the concern and rejection groups was the the concern students were slow but conforming while the rejection students were mischievous? In what other ways might teachers behave differentially toward these four attitude groups? (Note that Silberman found few significant behavioral differences, although he had many impressions that seem plausible.)

This line of research was continued by Jenkins (1972). She conducted a similar study, using the same four questions to identify one student of each type in each of 10 elementary classrooms and then observing in the classrooms and interviewing the teachers. She observed only 10 hours per classroom, but she interviewed the teachers extensively. Her interview findings are very relevant to the Student Attribute Study, and they will be discussed in detail in Chapter 5.

The observational data from this Jenkins' study revealed few differences among the four attitude groups. Of 22 student behaviors observed, only hand-raising and student initiated work interactions discriminated significantly among the groups. Attachment students were highest on these measures, and indifference students were lowest. The concern and rejection students were in between and not significantly different from each other.

Although this study produced many interesting interview findings, the observational part of it added little to Silberman's work, and it provided no additional information on the questions raised above. However, a larger study by Good and Brophy (1972) did provide some answers to these questions. In particular, it differentiated concern students from rejection students, and it identified some more of the attributes of the students.

The study replicated Silberman's procedures as closely as possible, although some modifications were introduced. First, to increase the number of students in the study, teachers were asked to nominate three students to each attitude group rather than only one. Second, Silberman interviewed the teachers in his study before taking observational measures, so that the

teachers knew what variables were being studied. This could have led them to behave differently when being observed than they would have otherwise. For example, perhaps Silberman saw little favoritism toward attachment students partly because the teachers were aware of his interest in them and went out of their way to avoid favoring them. To eliminate this and related possibilities, Good and Brophy observed in the classrooms before interviewing the teachers. Finally, both the Silberman study and the Jenkins study had been done in upper middle class suburban schools. To introduce more variation and take into account the possibility that school SES (social economic status) might make a difference, Good and Brophy included schools which contrasted in their student populations.

The schools and teachers already were included in a study of teacher expectation effects (Evertson, Brophy, and Good, 1972). Three first grade classes in each of three schools were observed for about 40 hours each. One school served a predominately upper middle class white population; the second served a predominately lower class white population; and the third served a predominately lower class black population. Teachers had been asked to rank their students on achievement in the fall and winter, but attitudes were not measured until spring, following data collection. Thus, teacher-student interaction could not have been affected by teacher awareness of our interest in teacher attitudes. The same was true of the classroom observers, who also did not know that teacher attitudes would be measured in the spring.

Silberman's (1969) four interview questions were used, with two differences. First, at the request of the school system, the rejection question was altered to "If your class was to be reduced by a few children, which would you have

removed?" Second, teachers were asked to nominate three children in response to each question rather than just one. Behavioral data collected previously then were analyzed for differences among attitude groups. First, analyses by school revealed no differences in patterns. Thus, the relationships between teacher attitudes and measures of classroom interaction were essentially the same across student SES and race. The findings generally replicated those of Silberman and Jenkins, although they were more numerous and provided a richer picture of these four student types and the kinds of interactions they had with their teachers.

Attachment students showed generally positive patterns. They were high achievers who actively sought out the teachers to initiate contacts with them, especially about work assignments. They were eager to respond to questions, but they did not call out answers or violate classroom rules often. They usually responded correctly when called on, had fewer errors per reading turn than other students, and were more likely than other students to at least make some kind of response even when they did not know the answer. It is easy to see why the teachers were attracted to these students, and why they enjoyed having them in their classrooms.

Nevertheless, as Silberman (1969) had found, the teachers did not systematically and overtly favor these children. Attachment students did receive more praise for good work and less criticism, but these differences clearly were related to their higher achievement and better behavior than to teacher favoritism. The attachment students were not praised any more often per correct answer than their classmates were.

Another finding that replicated one reported by Silberman (1969) was that the teachers minimized their contacts with attachment students. They sought them out less frequently to discuss work and they called on them less frequently to answer questions. This may have reflected a desire to avoid showing favoritism, although it could have been recognition by the teachers that these students did not need much supervision and would come to them if they needed help.

There were a few indications which could be interpreted as subtle favoritism of attachment students, but no clear evidence of favoritism. For example, the attachment students received more reading turns than average, and they had higher percentages of process questions (which generally are more difficult questions, compared to other kinds). These data fit with Silberman's (1971) impression that teachers held up attachment students as positive examples to their classmates, although the same findings could have occurred even if such thoughts never crossed the teachers' minds.

The teachers could have asked attachment students to read more often because they were better readers and thus useful for maintaining a good pace during reading groups, and they could have asked them more difficult questions simply because they were more likely to be able to answer them. Similarly, the teachers gave detailed process feedback to attachment students less often, probably because they did not need it. All of these differences can be taken as subtle examples of favoritism, but they also can be explained more simply as due to teacher recognition that attachment students were among the highest achievers.

Concern students were like attachment students in that they initiated many contacts with the teachers and were more likely to guess than remain silent when they did not know answers. However, they were mostly low achievers. They had fewer correct answers per response opportunity and more errors per reading turn. These data bear out Silberman's (1969) finding that concern students were low achievers who were highly dependent upon the teachers for direction and feedback. The data on teacher interactions with concern students also support Silberman's findings. The teachers showed their concern by interacting with these students often, giving them many more opportunities to answer questions in class discussions and reading groups, and seeking them out more frequently for private contacts about work or even procedural matters.

In addition to these differences in frequency of interaction, there were some interesting differences in quality of interaction. The teachers were more willing to spend time with concern students, providing them with feedback or explaining things over again if they failed to understand them the first time. Also, teachers were more willing to stay with concern students when they had failed to answer questions or read correctly. Rather than call on someone else or give the answer, they tended to try to elicit the answer from the concern students by giving them more time or by helping them with clues or hints.

Taken together, the data on concern students replicate and extend Silberman's findings that teachers show their concern and that their concern appears to be due to low achievement by these students. The teachers

responded positively to them, even though they made unusually high demands upon their time and energy. They were willing to take the time to try to get points across to them or to elicit answers from them, and they went out of their way to interact with them often. In short, the teacher concern seemed to be mostly concern about low achievement, and their response to this concern was obvious in their attempts to improve low achievement through more frequent and intensive contacts and a conspicuous willingness to provide whatever help or direction was needed.

Most of these findings are consistent with Silberman's findings and impressions, although two of his impressions were not supported. There was no evidence that the teachers were going out of their way to praise concern students at every opportunity. Nor were they particularly quick to give concern students answers or unwilling to try to elicit answers from them. The data revealed no consistent differences in praise and criticism of concern students compared with their classmates, and, if anything, the teachers tended to push these students for better responses rather than to avoid pushing them. The Good and Brophy (1972) data suggest that the teachers were actively and seriously trying to teach the concern students, not expressing concern by lowering aspirations and substituting emotional support and reassurance for persistent teaching.

The Good and Brophy data were especially revealing in regard to in-difference students. These students had very low rates of interaction with teachers, as Silberman (1969) had found. However, other data revealed additional differences. Several measures showed clearly that the low rates

of interaction with teachers were due primarily to student avoidance of the teachers. Indifference students initiated fewer work and procedural contacts with the teachers, seldom called out responses, and were more likely to remain silent than to offer a guess when they did not know an answer.

Measures of classroom achievement and conduct indicated that indifference students were average, as a group. The teacher-student interaction data suggested that teachers responded to these students in complementary fashion by avoiding them. They did not compensate by seeking them out more frequently. Indifference students were asked fewer direct questions than average, and the teachers initiated fewer private contacts with them.

These findings are unusual, because teachers typically compensate for individual differences in students (Brophy & Evertson, 1976). For example, if students do not come to teachers for help when they need it, teachers usually compensate by going to the students to check their work and provide help if necessary. Also, if students do not volunteer to answer questions by raising their hands, teachers tend to compensate by calling on them more often when they do not have their hands raised. Thus, the teachers' tendency to respond to student avoidance with avoidance of their own is unusual. It suggests a different interpretation of the dynamics relating to indifference students than the one given by Silberman (1969).

Silberman believed that indifference students were simply overlooked in a passive and presumably accidental fashion by teachers who were busy meeting the demands posed by more active and salient students. This version pictures

Indifference students as simply "lost in the shuffle," not actively avoided or disliked. However, the teachers in the Good and Brophy study responded to student avoidance with avoidance of their own, rather than with compensatory increases in initiation of contact. This suggests the possibility that their indifference was more active, perhaps even rejecting.

This interpretation does not arise so much from direct data, which contained no positive elements of rejection (for example, Indifference students were not criticized more or praised less than other students). However, the contrast with typical findings which indicate that compensatory teacher behavior is the norm suggests the possibility that the Indifference students were conditioning the teachers to stay away from them! This will be discussed in more detail in the next chapter in connection with research on student effects on teachers.

The Good and Brophy data on rejection students bore out Silberman's description of these students as misbehaving. They initiated contacts with the teachers for procedural or work interactions often, called out answers without permission more frequently, and were especially high in criticism for misbehavior. In general, they appeared to be overactive and aggressive, compared to their classmates.

Achievement measures showed no differences in rates of reading errors per reading turn or percentages of questions answered correctly in general class discussions, but rejection students did make more errors in responding to questions during reading groups. In general, though, the rejection students were characterized much more by misbehavior than by low achievement.

As with the concern students, teachers noticeably and consistently acted upon their attitudes toward rejection students. These students had many fewer response opportunities than average, even though they called out answers more often and even though teachers asked them direct questions as often as they asked other students. This means that the difference in total response opportunities occurred because teachers were less likely to call on rejection students when they had their hands up, seeking to respond. Perhaps these students raised their hands less often, but given their tendency to call out answers, the teachers might have been avoiding them. Also, the direct questions asked of these students may have been asked more to get their attention than to provide them with opportunities to respond.

Other data showed clearer evidence of teacher avoidance of rejection students. These students had fewer reading turns, and the teachers failed to give them feedback after reading turns and responses to questions especially often. Thus, when teachers did have public interactions with rejection students, they tended to keep them brief and move on to someone else at the first opportunity.

The data from private interaction situations were very different. Teachers initiated more private work contacts with rejection students than average, so that they clearly did not try to avoid dealing with them in this context. However, rejection students were more likely to be criticized during these contacts. Taken together, these data provide a clear picture of what the rejection students were like and how the teachers reacted to them. Among other things, it seems obvious that the potential for undesirable self-

fulfilling prophecy effects was greatest for the rejection students.

The Good and Brophy (1972) data enriched the profiles of these four types of students and the data base on ways that teachers respond to them, although it did not answer all questions. It strongly confirmed Silberman's (1971) impression that the major difference between concern and rejection students was that concern students were conforming low achievers and rejection students were non-conforming misbehaviors. It also confirmed his findings and impressions that teachers were quite obvious in showing concern and rejection.

However, the findings suggested a more positive picture of teacher responses to concern students than earlier data implied. The teachers appeared to act on their concern by mobilizing to do the best job they could to teach concern students as much as possible. Earlier findings and impressions had suggested that teachers reacted to concern students by sympathizing with them rather than by teaching them. The Good and Brophy data also elaborated the picture of indifference students, raising the possibility that teacher indifference is active avoidance, not just passive neglect. However, this was an indirect inference; no direct data support it. Thus, this study added much new information about indifference students, but also raised new questions.

The Good and Brophy (1972) study failed to add much to previous findings concerning attachment students. Again, glimmerings of favoritism appeared in subtle measures, but there was no solid evidence of favoritism of attachment students. This was true even though the teachers did not name attachment students until after the observational data were collected. Given the strong patterns for concern and rejection students and the new information and suggested

interpretations for indifference students, this only deepened the mysteries surrounding attachment students. Common sense suggests that attachment should be at least as strong as the other teacher attitudes, but observational studies failed to reveal much about attachment students and especially about how teachers interact with them.

A follow up study conducted by Evertson, Brophy, and Good (1973b) used the same general procedures in six second grade classrooms located in two of the same schools studied the previous year. The group differences that appeared in this study were similar to those in the first year, but there were fewer significant differences. The findings added no new information to what was available. In particular, the attachment students again were shown to be cooperative high achievers, but no evidence of overt teacher favoritism towards them was revealed.

The follow up study supported Silberman's data and impressions about concern students, and conflicted to some degree with the Good and Brophy (1972) findings. As usual, high rates of teacher interaction with concern students were found. However, the concern students were especially likely to be praised for good behavior and criticized for misbehavior. The praise data fit Silberman's impression that teachers go out of their way to encourage and praise concern students.

The Good and Brophy (1972) finding that teachers pushed concern students for good responses and good work were not replicated. In fact, there was a tendency for the teachers to give the answers or call on someone else when these students did not answer correctly. Furthermore, when the teachers did

try to elicit answers from concern students, they tended to provide a clue or some other kind of help rather than just allow more time or repeat the question. Thus, the follow up data were closer to Silberman's initial data and impressions than they were to the Good and Brophy (1972) data. They suggest that teachers respond to concern students by interacting with them more frequently and trying to give them special help, but also by being somewhat less critical and demanding. Also, the teachers appeared to go out of their way to be encouraging when opportunities arose.

This is a clear conflict in findings, and it is all the more remarkable because most of the concern students in this study were boys who misbehaved frequently in addition to having difficulty with their work. In many ways, the concern students in this study overlap in their behavioral qualities with the typical rejection student. Even so, the teachers clearly responded to them with facilitative concern rather than rejection. Thus, the follow up study not only failed to add anything of significance to previous findings; it introduced discrepant findings and new and puzzling questions.

A dissertation study by McDonald (1972) was designed specifically to examine teacher interaction with attachment students. Fourteen elementary classrooms were involved. Each teacher was questioned about the degree to which she liked each of her students, and students were questioned about the degree to which they liked their teachers. The classes then were observed to see if interaction patterns were "warmer" when teachers and students liked each other than when they did not. Group differences were in the predicted direction on seven of 10 measures, but none were statistically significant.

Here again, classroom observation data revealed ~~no favoritism~~ toward attachment students. The same held true for students: students who liked their teachers were no more warm towards them than students who disliked their teachers.

In combination, these studies revealed much information about the characteristics of students who engender the attitudes of attachment, concern, indifference, or rejection in their teachers, and some information about how teachers interact with students toward whom they hold these attitudes. Many questions remained unanswered, however, particularly questions dealing with the dynamics of teacher interaction with attachment and indifference students.

One major question about all four types of students was "Why do teachers develop certain attitudes towards some students but not others, especially others who are similar?" Continued interest in this question, along with some of the more specific ones left unanswered by previous research, formed a second line of inquiry which led to the Student Attribute Study.

Summary

Silberman (1969) found that teacher attitudes he called attachment, concern, indifference, and rejection were basic teacher orientations towards students, and that students who were objects of these attitudes had unique qualities and patterns of interactions with teachers. This work interested Jenkins (1972) and Good and Brophy (1972), who followed up and elaborated upon it, and it has continued to interest us and our colleagues since. The result has been a program of research on teacher attitudes and their behavioral expression in the classroom. This has been conducted parallel to, and in

conjunction with, a program of research on teacher expectations.

Together with a third major influence to be discussed in the following chapter, these lines of research culminated in the Student Attribute Study. Our interests grew for several reasons. First, although the findings of related studies were cumulative in many respects, replicating and expanding knowledge about children in these four attitude groups and about the kinds of teacher-student interactions that were typical of each group, certain contradictions appeared and many new questions came up. Also, most information about the students was rather general. We became interested in getting more specific and detailed information about what kinds of students provoke strong attitudinal responses in teachers.

For example, each study showed that attachment students were conforming high achievers, and rejection students were non-conforming misbehavers. However, these were only norms. Teachers do not necessarily feel attachment toward all conforming high achievers, and that they might occasionally feel attachment toward students who misbehave frequently. The opposite also is likely with regard to rejection of students who do not fit the typical patterns. Thus, just as our expectation research led us to develop an increasing interest in student characteristics, so did our attitude research.

We also developed increasing curiosity about how the teacher attitudes were expressed and how they interacted with other factors. The picture was not completely consistent for any of the four groups. Five separate studies failed to find clear evidence of teacher favoritism of attachment students, or indeed of any systematic teacher behavior towards these students. However,

impressionistic data and interpretations of some observed differences suggested that subtle favoritism might be revealed with other methods. The indifference students appeared to be simply lost in the shuffle in some studies, but other studies suggested that teacher indifference was more active, involving rejection and avoidance of these students. Studies agreed in showing that teachers exhibited concern about concern students, but there conflicting findings about how teachers expressed this concern. Do they redouble their efforts to teach concern students, or do they substitute sympathy and reduced expectations for persistent teacher efforts? Finally, although the data on rejection students were the most consistent, there remained some doubt about whether teachers express rejection in clear and consistent ways, or whether they are conflicted about their rejection and vacillated between positive and negative interactions with rejection students.

A major factor here was increasing awareness that students provide differential opportunities and problems for teachers, and that they sometimes control teacher behavior rather than vice versa. This awareness was part of a larger interest in child effects upon adults, a popular topic in education and psychology in recent years. This was the third major influence leading to the Student Attribute Study. It will be discussed in detail in the following chapter.

Although our attention was focused on teachers, even our earliest research on differential teacher behavior towards different students was providing information about student effects on teachers, not just teacher effects on students. We were aware of student effects, which is why we developed observational systems which would "hold students constant" and allow us to compare teachers in parallel situations. This also is why we used percentage scores like "percentage of correct answers followed by praise" instead of frequency scores like "times praised per hour." These methods make comparisons across teachers more valid by holding student differences constant, although student effects never can be held completely constant in a naturalistic study.

For example, the measure "praise following correct answers" allows comparison of teachers' behavior in specific situations: when they have asked questions and students have responded correctly. This is much more useful than comparisons based on simple praise rates which do not take into account the quality of student answers. On the other hand, all correct answers are not equally good or praiseworthy. Some are routine and expected, such as brief answers in drills on old material. Such answers are different from, and less likely to be praised than, detailed and insightful answers which exceed the teacher's expectations for the class in general or for the students who give them. Teachers are more likely to compliment students in these situations than when they answer easy questions. Thus, even percentage measures like "percentage of correct answers followed by praise" do not control everything.

The ambiguity surrounding these and other aspects of our data, particularly the data on sex differences to be discussed below, gradually increased our interest in student effects on teachers. They also helped us remain aware of the fact that teacher-student interaction is a two-way process in which each

party influences the other. It is not a one-sided relationship between an active, initiatory teacher and a passive, responsive student.

This emphasis emerging in our own work was part of a larger recognition of the fact that children and youths have important effects on adults which exist alongside the effects that adults have on them. This can be seen even in newborn infants. Those who are calm, responsive to cuddling, and free of feeding problems make it easier for adults to enjoy them and look forward to interacting with them. Those who are irritable, do not seem to want or enjoy cuddling, and are difficult to feed also are difficult to enjoy, even for their parents (Thomas, Chess, and Birch, 1970). Bell (1968) reviewed numerous studies of child rearing and concluded that individual differences in children in their effects on parents had been largely ignored, and that certain commonly accepted "findings" in the child rearing literature would be interpreted quite differently if child effects on parents were taken into account. The same is true for many of the "findings" in educational research.

Perhaps the most obvious example is indirect teaching. Indirect teachers use questioning and discussion much more than lecturing and demonstrating, praise often and criticize seldom, elicit student ideas often and reflect them to the class for reaction, and promote pupil-to-pupil interaction (Flanders, 1970). Numerous studies show that classrooms high in indirectness are high on measures such as achievement, attitudes, or classroom climate. These data have been taken as evidence that indirect teaching causes desirable outcomes.

However, classrooms high in indirectness almost invariably are high in student SES and IQ. This is not surprising. It is much easier (as well as probably more effective) to be indirect with advantaged or talented students than with less advantaged or talented ones.

Thus, the naturalistic data on indirect teaching can be interpreted very differently, depending upon whether student effects on teachers are taken into account and how they are interpreted.

Because of factors like these, we have become impressed with the risks involved in taking classroom data at face value and also with the need for detailed analyses designed to explain what data mean (quite literally). In some cases, student differences are so extreme that most classroom measures, including most of those presumably dealing only with teacher behavior, probably reflect student effects on teachers.

Consider data from a large and unruly class of low achieving eighth graders at a low SES school, compared to data from another eighth grade class composed of the highest achieving students in a high SES school. There are such striking contrasts between these two settings that the classroom process data probably would not change much if the two teachers were to switch places. This does not mean that teacher effects are unimportant, even under such extreme circumstances. In fact, we believe that teachers are much more important and have greater effects than they are given credit for at times (Good, Biddle, and Brophy, 1975). However, this example illustrates that student effects on teachers can be formidable, and that they set limits within which teacher effects can be observed. Certain classes will make fair progress even with inept teachers, while even the most dedicated and talented teachers can accomplish only so much with other classes.

Sex Differences

Student sex differences in achievement and in patterns of interaction with teachers provide one of the most interesting illustrations of student

effects on teachers. Questionnaire studies, particularly those involving preschool or elementary school teachers, regularly show teachers to be more favorable towards girls than boys, and to have higher achievement expectations for girls. These differences disappear or even become reversed by high school. Such data often are interpreted with reference to teacher sex, student sex, and the nature of schooling, but not student effects on teachers.

Typically, girls are socialized to be better at and to enjoy more activities involving verbal skills. In contrast, boys typically favor activities involving mechanical or spatial skills. Also, girls are socialized to become interested in relatively quiet and verbal activities and to be conforming to adult authority figures, while boys are socialized to engage in noisier and more physical activities and are expected to be more independent and somewhat less conforming to authority (Maccoby and Jacklin, 1974). These differences in traditional childhood sex roles make school more enjoyable and easier to adjust to for young girls than for young boys. School rules and expectations are much easier for young girls to accept and follow.

The changes that occur over time also are explainable from comparisons of traditional sex roles with the student role. As they move into and through adolescence, girls begin to encounter peer pressures and general social expectations suggesting that they should not be too aggressive or even too intelligent. This leads many girls to achieve below their abilities or even to develop the idea that they cannot handle certain subjects even though they could if they approached them with more positive expectations.

While the situation of girls relative to schooling is deteriorating for these and other reasons, the situation of boys is improving. For one thing,

many low achievers and most of those who dislike school drop out when they reach the legal age for doing so, and most of these dropouts are boys. This means that the boys remaining in school after this legal age is reached are a select sample, higher as a group in achievement and motivation than "the boys" would be if the dropouts were still in school.

Also, schooling gradually becomes more compatible with traditional male sex roles, and correspondingly less so with traditional female roles. One difference is the curriculum itself. By high school, there is less emphasis on language arts and more on activities of greater interest to males. Also, as males mature toward adulthood, they become more aware of the importance of education for the occupational and family breadwinner roles traditionally expected of them as adults. This causes them to take school more seriously, seeing it as something they need for their own purposes rather than as something imposed by outside authorities.

Teacher Sex

We think that these role considerations explain most of the observed student sex differences related to schooling. However, there is another factor which has been stressed by some writers (Sexton, 1969; Austin, Clark, and Fitchett, 1971), but which we think is of little or no importance. This is the sex of the teacher. Many observers have noted that most teachers in preschools and elementary schools (until very recently) were female, but that many high school teachers are male. This has led to speculation about the possible effects of identification with the teacher and of teacher sexist bias.

The identification argument suggests that students are more likely to identify with a teacher of the same sex as themselves. This is a special case of

a more general principle that people are likely to identify with models perceived as similar to themselves (Bandura, 1969). It probably is true as far as it goes, but it does not seem to be a very important factor, at least not for most students. Availability of a male teacher as a role model for a boy without a father in the home or without an adequate father might be important, but there is little evidence that sex of the teacher makes much difference for typical students of either sex.

First, sex roles are learned from infancy in response to socialization from parents, siblings, peers, relatives, neighbors, books and games, and the media (especially television). Except in unusual cases, teachers will not have much influence on this process. In fact, a few studies in which teachers deliberately tried to counter traditional sex role stereotyping all showed no effects (Brophy and Laosa, 1971; Greenburg and Peck, 1973; Serbin and O'Leary, 1975). Students would go along with the teachers as long as they were actively pressured to engage in activities associated with the opposite sex, but they would revert to sex typed behavior as soon as this pressure was removed. Thus, even though there may be a tendency for students to identify more easily with same sexed teachers, teacher effects on sex roles seem to be minimal.

The most serious and at the same time least defensible claims relating to sex differences and education are claims of sexist bias and discrimination by teachers, particularly discrimination by female elementary school teachers against boys. Those who argue this claim can point to numerous questionnaire and interview studies which indicate that (primarily female) elementary teachers have more favorable attitudes towards and more positive expectations for girls. This sex difference appears so regularly that it can be considered an estab-

lished fact, although interpreting what it means is difficult.

The fact that male teachers are more frequent in higher grades also supports the "teacher bias" point of view. Interestingly, though, the same writers who portray female teachers as biased against males often portray male teachers as even handed and balanced in their treatment of students rather than as biased against females. In any case, based upon correlational findings, it is possible to argue that some of the sex differences in school attitudes and achievement result from female teacher bias against male students (and possibly also from male teacher bias against female students).

The few studies that have shown female teachers to interact more favorably with girls than boys have been conducted in preschools (Fagot and Patterson, 1969; Biber, Miller, and Dyer, 1972). Even here, most studies suggest that teachers were merely reacting to existing sex differences in behavior, not just to sex. The major exception was the Fagot and Patterson (1969) study, which showed that female preschool teachers were "feminizing" students of both sexes by rewarding feminine behavior and ignoring or punishing masculine behavior. However, the reinforcement that was received from peers counteracted this for boys, who reinforced one another for masculine behavior. In any case, there was no evidence that the boys had become less masculine/more feminine over the school year.

Many such studies have been reviewed in detail by Brophy and Good (1974), and they hang together nicely until you introduce the question of student behavioral differences and their effects on teachers. Then the data become ambiguous. For example, Martin (1972) found that boys tended to be both rated (on paper and pencil instruments) and treated (as inferred from classroom observations) in more extreme ways than girls. It was true that the students

who were the objects of most negative teacher attitudes and who had the least desirable teacher-student interaction patterns tended to be boys. However, the students who were the objects of the most positive teacher attitudes and who had the most desirable teacher-student interaction patterns also tended to be boys.

Martin concluded that the boys were rated and treated more variably than the girls because they were more active. As a group, the boys had both more of the good and more of the bad. However, the boys were not an undifferentiated group. One subgroup of boys were rated very highly and had very desirable interaction patterns, while another subgroup were rated very unfavorably and had undesirable interaction patterns. There was no overlap between these groups. Martin argued that, in many ways, it makes more sense to deal with them separately than it does to speak of "boys" as if all boys were essentially the same.

Martin's findings have been replicated several times in our own studies (Brophy and Good, 1974). Such findings indicate that teachers respond to student personal characteristics and behavior, not to student sex as such. It is true that the sex differences in behavior are themselves sex typed. That is, the greater activity levels and salience of boys fit with generalized sex role expectation differences. Thus, children may act as they do in classrooms partly because of the sex role socialization to which they have been exposed. However, the data indicate that teachers do not respond to boys as boys or to girls as girls. Instead, they respond to students as students, based primarily upon student characteristics and behavior not directly related to sex at all.

This conclusion recognizes the importance of student sex role socialization, but it discounts the idea that teacher sexist bias is of any significance in

explaining student sex differences. The sexism argument can be refuted more directly, however, with data comparing male vs. female teachers. The few studies which have done this agree in finding no evidence at all to support the idea that teachers discriminate against students of the opposite sex. Good, Sikes, and Brophy (1972) found a significant relationship between teacher sex and student sex on only one of 62 possible measures (less than chance expectancy) in a study of teacher-student interaction in junior high school. This difference suggested that, if anything, female teachers were favoring male students rather than discriminating against them. Similar findings were reported by Lahaderne and Cohen (1972).

More generally, studies comparing male and female teachers suggest a few sex differences in general teaching style, but not that teachers discriminate either in favor of or against students of either the same or the opposite sex. In summary, although student sex is of some importance in predicting differences in classroom behavior that will affect teachers, teacher sex appears to be of little or no importance as such (Good and Grouws, 1972). It seems clear that different teacher behavior towards male vs. female students results from different student behavior, not from teacher sexism. This observation naturally leads to questions about what kinds of student differences are affecting teachers.

Other Group Differences

What has been said about sex differences applies also to race differences, ethnicity differences, and SES differences. First, contrary to popular belief, there are remarkably few studies which even suggest discriminatory teacher behavior against minority groups. Second, their data are ambiguous. If taken at face value, they suggest that teachers systematically discriminate against cer-

tain groups by interacting with them less often or criticizing them more often (see, for example, Jackson and Cosca, 1974) .

However, studies that include provisions for relating differential teacher treatment of students to differential student behavior routinely show that teachers respond to student personal characteristics and classroom behavior, not group membership. Where group differences are observed, it is because certain behavioral differences in students are systematically associated with group membership. However, individuals who are exceptions to group norms are treated differently. More generally, teachers usually deal with students individually and not as members of groups. Effective teachers adapt their techniques to their students (Brophy and Evertson, 1976). Sometimes, this means that different treatment of different students or even of different groups is desirable.

Studies of Student Effects on Teachers

In addition to the questions that kept coming up in our own work, our interest in student effects on teachers was deepened by the findings of other studies relating to this topic. A particularly elegant and instructive one was carried out by Yarrow, Waxler, and Scott (1977). This study revealed that student individual differences affected the degree to which teachers implemented simple behavior modification strategies in a preschool. Two adult female caretakers were trained to be either high or low in nurturance at varying times during the day. During high nurturance periods, they were supposed to be very warm and responsive with the children. During low nurturance periods, they were supposed to be brusque and impersonal (but not rejecting). These instructions seemed simple enough: nurturant during high nurturance periods,

be non-nurturant during low nurturance periods, and respond normally otherwise. If these instructions had been followed, the teachers would have been uniformly nurturant during high nurturance periods and uniformly non-nurturant during low nurturance periods.

This was not the case, however, and the investigators convincingly showed that differences among the students were the reason. Both teachers were much more nurturant during the high nurturance period, but they sometimes failed to be nurturant when they were supposed to be. Also, sometimes they were nurturant when they were not supposed to be. These departures from their instructions were not random. Boys elicited much more non-nurturance than girls, and they were more salient and had stronger effects on the teachers. They were more likely to get non-nurturant or even rejecting treatment during supposedly high nurturance periods, and more likely to get negative teacher responses generally. They did this in particular by being persistent in seeking attention from the teachers and by making demands at times when the teachers were trying to do something else.

In addition to these sex differences, the investigators found that individual student differences that are fascinating and instructive about student effects on teachers. Besides coding the frequencies of teacher-student interactions and the degrees to which teachers were nurturant, they coded the degrees to which students "reinforced" teachers by responding in a warm, friendly, or otherwise positive fashion, and the degree to which they "punished" teachers by being unresponsive or negativistic.

Analyses of these data in relationship to how soon vs. how long teachers waited before initiating another contact with the same student showed that teachers predictably returned sooner to students who responded positively.

In short, even though the children were only preschoolers, they were conditioning the teachers by modifying their tendencies to seek them out to initiate contact vs. avoid them. Understandably, teachers respond positively to students who "reward" them and negatively to students who "punish" them. These data are similar to those discussed in Chapter 3 concerning teacher behavior towards various attitude groups, although they illustrate even more clearly that the findings result from student effects on teachers rather than vice versa.

Experimental studies in which student behavior was manipulated without the knowledge of the teachers (who were the experimental subjects) have shown predictable student effects on teachers. For example, Klein (1971) studied the behavior of 24 guest lecturers in classes where students behaved positively, neutrally, or negatively according to a prearranged schedule. Positive behavior included attention, eye contact, and apparent interest. Neutral behaviors were normal, spontaneous reactions. Negative behaviors included inattention, looking out the window, and general restlessness. Unsurprisingly, the guest lecturers were positive in their general behavior and more indirect in their teaching methods when students were positive than when they were negative.

Herrill (1971) showed student expectation effects on teacher behavior. The same man, unaware of the experiment, gave the same guest lecture in each of two college classes. One class had been told that he was warm and friendly, but the other class had been told that he was cold and indifferent. Observations revealed that he became increasingly warm while in the class that expected warmth, but became increasingly cold in the class where he was expected to be cold. Student ratings of the last segment of each class revealed that the class who expected him to be warm rated him as warmer, more relaxed, and

more competent. Similar results have been obtained in research that induced student expectations by providing phony information presented as student evaluations from the previous semester. These studies show clearly that students can and do affect teachers.

Attribution Studies

Another line of research illustrating some of the processes involved in student effects on teachers is research relating to attribution theory or causal attributions, discussed briefly in Chapter One. In these studies, teachers (or experimental subjects who are acting or believe that they are acting as teachers) are led to experience relative success or failure (through information purporting to be feedback about their performance or about student learning). Following this, they are asked to assess the experience and offer explanations for it. In particular, they are asked to attribute causality for success or failure to themselves, to the students, or to other factors.

Many of these studies have focused on the question of whether or not teachers are defensive and blaming if they are led to believe that they have not succeeded. Studies using artificial situations which force subjects to rely completely on the information given to them typically find that they use this information, making teachers appear defensive. However, studies done under more naturalistic conditions typically find that teachers are not particularly defensive, and that they adjust their initial attitudes and expectations according to student behavior (Ames, 1975, Beckman, 1972; Brandt, Hayden, and Brophy, 1975). Like the studies designed to get teachers to develop unrealistic expectations by giving them phony information, these studies reveal that teachers

typically change any misperceptions they may have once they encounter students and get opportunities to interact with them regularly.

Summary

Along with many other investigators concerned with teacher-student interaction, we have become increasingly aware of the need to take into account student individual differences in personal characteristics and behavior in interpreting classroom process data. Without taking into account student characteristics and their effects on teachers, it is possible to interpret differential teacher behavior towards different groups incorrectly as evidence of effective or ineffective teaching or as evidence of teacher discrimination. When group differences in treatment by the teacher are investigated in connection with group differences in treatment of the teacher, many correlational findings are seen to reflect student effects on teachers, rather than vice versa.

Along with our continuing interest in understanding the causes and correlates of teacher expectations and attitudes, we have become interested in questions concerning what student characteristics and behaviors are important to teachers and how individual differences in them affect teachers. These are the core questions addressed in the Student Attribute Study. In the following chapter, we will review other studies designed to answer these and related questions.

Much information is available about typical teacher perceptions of students, but few studies link teacher perceptions to student characteristics or behavior. When they do, it makes a difference in how teacher perceptions are interpreted. For example, one very common finding, discussed several times already, is that teachers tend to prefer and to have higher achievement expectations for girls, at least in the elementary grades. These teacher attitude and expectation data are valid, but they are interpreted differently if we know that teachers respond primarily to school related characteristics and behavior of students and not to student sex as such.

In this chapter, we will review some of the major findings from studies of teacher perceptions, especially expectations and attitudes, and we will discuss what is known about how teacher perceptions relate to student attributes.

Most investigations of teacher perceptions reveal that teachers like students and enjoy working with them, but primarily within the teacher role. Their perceptions of students focus on matters relating to the student role. Jackson (1968) noted this in interviewing teachers who had been nominated as outstanding. He found these teachers to be warm and student oriented, but mostly focused on their own roles as teachers (not socializers or parent surrogates) and on their students as learners (not individual personalities or peer group members).

Morrison and McIntyre (1969) found similar data in interviews with teachers in Britain. Most teacher reactions fell into three major clusters: pupil achievement, general classroom behavior and attitudes toward the teachers, and peer relationships. There were many more comments about the first two

areas than about the third. They also found that younger teachers were more concerned about classroom behavior, while older teachers were more concerned about student achievement. This probably means that more older teachers had developed satisfactory methods of handling classroom organization and discipline, so that they could focus their concerns on instructional matters (Fuller, 1969).

The things that teachers mentioned most frequently provide clues about the student attributes they attend and react to in forming expectations and attitudes toward students. The nine that occurred most frequently were, in order, general student ability, carelessness, laziness, talkativeness, cooperativeness, persistence, courtesy, ability to use language, and originality. Obviously, all of these are directly related to the teacher and student roles. More purely social or personal student characteristics were ranked much lower. The teachers did notice such traits as social confidence, sociability, and peer popularity, but their perceptions concentrated on matters related to teaching and learning.

Accuracy of Teacher Perceptions

Studies concerned with the accuracy of teacher perceptions usually show teachers to be accurate about things that they are in a good position to judge (primarily student ability and student personal traits that show up in the classroom), but less accurate about other things, such as peer popularity or leadership status. Perceptions in the latter areas tend to show both halo effects (the effects of generally positive or negative impressions) and logical errors (the tendency to believe that students must be high or low on one attribute if they are high or low on another attribute believed to be connec-

ted with the first one). Thus, teachers generally overrate students they like and underrate students they don't like, and overrate high achievers and underrate low achievers when rating traits like peer popularity or leadership. Also, they may overlook adjustment problems in students who are doing well in school, presumably because of a logical error in reasoning (students doing well in school are doing well generally, and vice versa).

In her study of the relationship between teacher attitudes and classroom interactions, Jenkins (1972) found teachers to be more accurate about student behavior that required some response from them than about other student attributes. They were relatively accurate about success and failure in answering questions, carefulness and persistence at seatwork, paying attention, smiling at the teacher, initiation of private conversations, requests for help or evaluation of work, and frequency of hand raising.

In contrast, they were not very accurate about such things as time spent on seat work assignments (as opposed to quality of work), frowning at the teacher, failure to answer questions, behavior when another student had given a wrong answer, requests for permission, and reactions to work assignments (positive, neutral, or negative).

Jenkin's data also showed much halo effect. Frequently, teacher perception scores for particular behaviors correlated as highly with several measures of different behaviors as they did with the corresponding measure of "the right" behavior. For example, perceptions of student attention correlated higher with measures of other student behavior than they did with the measure of attention. Such halo effects question the accuracy and meaning of perception data. Similar questions about the accuracy of teacher perceptions and about how they should be interpreted had arisen in our own work.

Teacher Perceptions and Achievement Expectations

These data from other investigators raised new questions about the accuracy of teacher perceptions and the relationships among teacher perceptions, teacher-student interactions, and student attributes. Our own work suggested that teacher impressions generally were accurate, but work by others sometimes did not. For example, several studies (reviewed in Brophy and Good, 1974) found statistically significant but relatively weak correlations between teacher estimates of student ability and scores on IQ or achievement tests. Meanwhile, we were finding that teachers were quite accurate even when they had little information to go on.

In our first study (Brophy and Good, 1970b), correlations between teacher rankings of expected achievement taken early in the Spring and scores on achievement tests administered at the end of the year averaged .77. This is as high or higher than the correlations between the same test battery given two or three months apart would be, at their age level. In the follow up study, correlations between teacher rankings of students in first grade and student scores on the Metropolitan Achievement Test administered in second grade generally were quite high, even those made in September when the children had been in school only about a month. These correlations averaged about .70, compared to .71 for the rankings made in November and .76 for those made in March. This led to curiosity about how teachers form achievement expectations, particularly how they form early impressions about students who are new to them and have not yet established a "track record" at the school.

This was investigated in a dissertation study by Willis (1972), in which first grade teachers in a school system where there were no kindergartens were asked to rank their children on expected achievement after only three days

of school (they also were asked to rank them again twice more later). The teacher rankings from the third day of school correlated about .60, on the average, with scores on the Metropolitan Readiness Test administered a few weeks later. A second set of rankings made after this test was given showed higher correlations (averaging about .79), indicating that the readiness test data affected teachers' expectations somewhat. Even so, the teachers were remarkably accurate in their first impressions based upon minimal data. They also were flexible enough to change these first impressions when they appeared inaccurate.

In addition to gathering data about the accuracy of teacher achievement expectations, Willis used questionnaire and interview techniques to try to find out what criteria the teachers used in making these judgments. Among teachers who filled out an adjective description questionnaire, the strongest correlates of achievement predictions were perceptions about children's attentiveness, self confidence, maturity, and ability to work independently without constant supervision. Other perceptions which had significant but weaker correlations included getting along well with classmates, participating actively, obeying classroom rules, good self control, physical attractiveness, and physical size. Note that the teachers gave more emphasis to the more reliable and rational criteria (those directly related to quality of work) than to such criteria as physical features or classroom conduct.

Another set of teachers were interviewed to get their free response observations and comments about students. These were coded into categories and analyzed. The data showed that students expected to do well were perceived as mature, healthy in their social-emotional development, compliant, ready for school, able to do assignments correctly, and high in general ability. Here

again, primary emphasis was placed on observable and credible evidence of ability. Other perceived attributes that correlated with achievement expectations but not very strongly included race (whites were expected to do better than blacks), coming from an intact home, coming from a good family, independence in self care, good attitudes or motivation, good classroom behavior, ability to perceive similarities and differences, ability to color or draw well, good motor coordination or writing ability, alertness, observational skills, general school readiness, ability to follow directions, and attention.

The questionnaire and interview data collected by Willis agree in suggesting that teachers are successful in judging student potential, and that they are successful because they use relevant criteria.

This research by Willis (1972) provided some information about the student characteristics that they attend to and use in forming them. A related study along these same general lines was conducted by Moles and Perry (1975) in six first grade classrooms in a large city. Although information about student achievement on standardized tests was not available, the investigators did interview the teachers concerning their expectations for student achievement and observed teacher-student interaction.

Teacher expectations were measured at the end of the second week of school by asking teachers to rank their students. This was repeated again in December. Other information collected included socioeconomic status indicators such as whether or not the student qualified for a free lunch, occupation of the family breadwinner, presence or absence of a father in the home, whether or not the mother worked, the child's sex, kindergarten performance as judged by report cards, parent involvement in the school as judged by teacher comments, early first grade academic performance on a test of school readiness and achievement (the

teachers did not see these data until after they had made both sets of achievement expectations rankings), and information about conduct in first grade based on observed reprimands for misbehavior and on teacher comments about the student during interview. These data were correlated and analyzed with complex techniques designed to identify which factors were most basic in determining teacher expectations.

Several variables were correlated with teacher expectations in September after just two weeks of school. The most important of these were kindergarten performance (which was known to the teachers) and children's readiness and early first grade achievement tests scores (which were not). These findings necessarily are different from the Willis (1972) findings concerning correlates of initial expectations, because the teachers in her study did not have information on kindergarten performance. They did get access to test scores, but not until after their first expectation rankings. In any case, the two studies agree that teachers use the best information available to them.

Although it is impossible to tell from the data in this study, the fact that children's scores on the test administered by the investigators added a strong and separate contribution to the prediction of teacher expectations beyond that provided by the kindergarten performance of the children suggests that teachers were adjusting their expectations to take into account current information. Expectations obviously were not based only or even primarily on kindergarten performance. The fact that they were independently associated with scores on a test given about the same time suggests that the teachers were adjusting expectations based on kindergarten performance in ways that made them more accurate, probably by observing the kinds of predictors that the teachers in the Willis study observed.

Among the other variables studied, parental involvement and two SES indicators were related significantly but weakly to teacher expectations, while sex and conduct were not related at all. The findings for sex are surprising, but those for conduct are not. The teachers in the Willis (1972) study stated that they tended to suspend judgment about conduct, ability to follow directions, and ability to work independently, because they know that some students with little or no previous schooling take a while to "settle down" and adjust to school. Perhaps the teachers in the Moles and Perry (1975) study felt the same way.

The September data were compared with the December data to see if there were changes in associations with teacher expectations after the teachers had more experience with the students and had access to more information. This turned out to be the case. By December, the children's scores on the test of early first grade performance were the best predictors of teacher expectations, and kindergarten performance still was a moderately strong predictor. SES and parental involvement measures no longer were significant predictors. However sex now had a weak but significant relationship to expectations: girls were expected to achieve better than boys.

This finding again indicates that teachers base their expectations upon observable performance, and in particular upon the most reliable indicators available. The findings concerning sex suggest that teachers typically do not start out with clear cut sex difference expectations (recall the Palardy 1969 study in which some teachers did expect girls to do better than boys but others did not), but that they develop differential expectations on the basis of differential behavior. If this differential behavior is related to student sex, a sex difference in expectations will show up eventually. Like some of the other

data relating to sex reviewed earlier, this suggests that the sex difference is not related to sex as such, but instead is related to individual differences in student characteristics.

Taken together, these studies on the formation of expectations by first grade teachers with little or no information other than what they can observe in the classroom indicates that they attend to relevant information, draw inferences appropriately, and develop generally accurate expectations. Furthermore, data on stability and change in expectations over time suggest that false early impressions usually are corrected. Teachers will use inefficient or questionable information to make predictions if no better information is available, but in realistic situations they tend to use the best information that they have.

Teacher Perceptions and Teacher Attitudes

Willis and Brophy (1974) studied the teachers' interview responses as they related to the teacher attitudes of attachment, indifference, concern, and rejection. The attitude data were collected at the end of the year, after the teachers had responded to the interviews. Equal numbers of boys and girls were nominated to the attachment group, but more boys were nominated to each of the other three groups, particularly the concern group. Data from the third interview taken in the Spring were analyzed to see how the teachers described these four groups of students.

Boys in the attachment group were described as well clothed, physically immature, likely to wear glasses, unlikely to be unusually quiet, likely to be assigned as leaders or helpers, helpful with other children, likely to be busy-bodies, likely to know left from right and to be able to stay within lines on tablets, unable to draw well, not likely to be reading up to their ability, likely

to volunteer information during discussions, likely to have a perceptual problem or learning disability, likely to have a generally positive pattern of conduct and social behavior, and likely to be high in general ability. These perceptions generally fit the stereotype of the attachment student as conforming and achieving, although there are interesting exceptions.

For example, the teachers saw these boys as busybodies, as physically immature, as likely to have physical problems, and as not working up to their abilities. Even so, they responded to them with attachment, and the data even suggest some favoritism (allowing them to be leaders and helpers more often).

Girls in the attachment group were described as larger than average, more attractive than average, having interested and cooperative parents, likely to require glasses or have a visual impairment, having been to kindergarten, not knowing how to write their names, being creative and imaginative, being alert and close observers, liking stories, being able to work independently, being of generally high ability, coming from generally good families, and being high in expected achievement. In contrast for the data for boys in the attachment group, the data for girls are almost completely positive. However, they contain no hint of teacher favoritism.

Boys in the indifference group were described as more likely to have blond hair, to have "blank" eye expressions, to be physically immature, to be neat and clean, to have a working mother, to be reared by grandparents or substitute parents, to have disinterested or uncooperative parents, to need glasses or have visual impairments, to have speech impediments or use baby talk, to be sociometric loners, to be anxious to please, to be in poor health, to have negative attitudes toward school, to have failed to live up to the teachers' initial expectations for them, and to have poor verbal skills.

In many ways, these data suggest concern students rather than indifference students, although the teachers did perceive the indifference group boys as loners and as having negative attitudes toward school. They also perceived them as having failed to live up to the teachers' expectations for achievement, but this was true of the boys in the attachment group also. Taken together, these data provide more support for the suggestion that teachers do not particularly enjoy indifference students, but they provide no indication as to why not.

Girls in the indifference group were described as more likely to be non-white, not liking school, giving up easily on work assignments, lacking self confidence, not being prepared for school, not knowing their colors and numbers, being creative and imaginative, having generally low ability, interacting infrequently with the teachers, and often presenting problems in their classroom behavior. As with the boys, these data on indifference group girls fit the previously reported indifference group findings to some extent, but they also contain elements more typically associated with the concern group and the rejection group. It is more clear in the case of the girls why the teachers would not enjoy interacting with them, although it is not clear why they responded to them with indifference rather than with concern or rejection.

The boys in the concern group were described as typically average in size, more likely to be reared by grandparents or older parents, likely to have a speech impediment or use baby talk, likely to be generally immature, active and vivacious, attention seeking, able to use and keep up with school supplies but dependent in schoolwork and in need of help from the teacher, in need of reassurance and approval, generally low in ability, needing readiness work, having positive attitudes toward school, poor in health, poor in social-emotional development, poor in oral and verbal skills, poor in independent work skills, and generally

low in ability. These data quite clearly fit the picture of concern students as low ability students who are cooperative and conforming.

Girls in the concern group were described as more likely to be non-white than white, likely to come from good homes and large families (although the large families were seen as causing problems for these children), likely to have speech impediments or use baby talk, dependent, quiet, lacking in confidence, needing supervision and help from the teacher, having generally positive attitudes toward school, and having poor verbal skills. These data are very similar to those for the boys. Again, they suggest a pattern of low ability, cooperation, and conformity.

The contrasts between the concern students and the indifference students provide clues about why the teachers did not respond more positively to the indifference students. First, concern students were notably positive in their attitudes toward school (and presumably toward the teachers), while indifference students were less positive or even negative. Second, concern students were conforming and compliant, but indifference students often caused behavior problems. Third, the data on indifference students suggest that they were "turning off" the teachers. They were described as having blank facial expressions, as being generally unresponsive, and as having poor attitudes toward school.

These teacher comments suggest that the concern and indifference students probably were conditioning the teachers like the children in the study by Yarrow, Waxler, and Scott (1971). Concern students apparently sought out the teachers and gave covert signals indicating that they enjoyed contacts with them. Indifference students apparently minimized contacts with the teachers and gave covert signals that they disliked such contacts. Apparently, the teachers responded by increasing their contacts with concern students and decreasing their con-

tacts with indifference students, and by developing corresponding attitudes over time.

Boys in the rejection group were described as more likely to be non-white than white, to come from intact families, to be immature and poorly adjusted, independent, loud, disruptive, not vivacious, not likely to be assigned as a leader or helper, not getting along well with others, talkative, not knowing similarities and differences, not knowing how to write their names, not knowing left from right or how to stay within lines, not able to use or keep up with school supplies, having weak reading abilities, needing extra help because of generally low ability, needing readiness work, likely to fail, having deteriorated in work since the beginning of the year, being either notably healthy or unhealthy, lacking in readiness skills, having poor verbal skills, being physically unattractive, providing frequent classroom behavior problems, generally lacking in school readiness, misbehaving during seatwork times, and being of generally low ability.

In short, the teachers perceived these boys as 20 volumes of bad news. Their statements included the admission that they did not allow these boys to act as helpers or leaders as often as the other students, and they contained no hint whatsoever of ambivalence or attempts to compensate. The negative halo effect produced by these boys was so strong that teachers described them as low in ability in several different ways, even though they did not differ significantly from their classmates on the Metropolitan Readiness Test. In this case, at least, strong negative attitudes distorted teacher perceptions of ability.

The girls in the rejection group were described as coming from less desirable families, being busybodies, not liking school, giving up easily, lacking self confidence, being playful and mischievous, being unprepared for school, being

poorly adjusted to school routines, not knowing colors and numbers, not knowing similarities and differences, being alert observers, not volunteering information in class discussions, not paying attention, being likely to fail, being able to do better than they were doing, having poor attitudes towards school, having poor school readiness, doing poor work, and having generally low abilities. Exception for the statement that these girls were alert observers, these teacher perceptions are unremittingly negative, just as they were for the boys in the rejection group. Also, just as with the boys, these girls did not differ from their classmates in Metropolitan Readiness Test scores, despite frequent teacher statements about low ability.

The data on the rejection group from this study provide perhaps the clearest and broadest picture of rejection yet discussed. The rejection group students were seen almost completely negatively, even where the objective facts did not support these perceptions, and there was no indication at all that the teachers felt guilty or ambivalent about rejecting them. Furthermore, it is clear from the teachers' remarks that misbehavior in the classroom and generally negative attitudes toward school and teachers were the main reasons for rejection. Apparently, here as elsewhere, hostility breeds hostility.

Our study of six second grade classrooms included teacher ratings of students' attributes and behavior in addition to the four attitude scales and the classroom observation data (Evertson, Brophy and Good, 1972; Brophy and Good, 1974). The teachers rated the students in the attachment, concern, indifference, and rejection groups on 27 scales concerning classroom behavior, interaction with the teacher, and general personal attributes.

As might have been expected from previous data, significant correlations were obtained most frequently for student sex and for the rejection students.

Fourteen of the 27 correlations were significant for sex, and they all indicated that the teachers perceived the girls more positively than the boys. Boys were seen as restless, sassy, defiant, lazy, likely to make funny or irrelevant comments, likely to daydream, lacking in confidence, butting in with answers, fighting, defensive, needing to be pushed rather than encouraged (presumably because they were not achieving up to their potential), immature, and impulsive, compared to girls. The strongest correlations were for restlessness, daydreaming, and fighting. The general picture is one that should be familiar by now: these teachers saw boys as less motivated and less cooperative. Despite these perceptions, however, the classroom observation data from this study did not reveal teacher discrimination against boys.

The rejection students were seen even more negatively. The teachers described them as restless, cheating, making the teacher uncomfortable, sassy, defiant, lazy, making funny or irrelevant comments, daydreaming, lacking in imagination, butting in with answers, fighting, defensive, unhappy, messy, immature, avoiding eye contact, and impulsive. The strongest correlations were for restlessness, cheating, sassiness, the teacher, defiant, lazy, daydreaming, defensive, unhappy, and immature. Thus, the general picture is one of mutual hostility between the teachers and the rejection students, even though some of these students were seen as unhappy and immature.

In contrast, the data for attachment students were uniformly positive. They were described as unlikely to cheat, unlikely to be embarrassed in the classroom, making the teachers feel comfortable, unlikely to daydream, helpful, happy, attractive, unlikely to whisper, mature, and likely to make eye contact. Thus, the teachers saw these students as achieving and conforming, but also as mature and well adjusted.

Only six relationships were significant for the indifference students, although they provide an interesting picture. Teachers described these students as not very noticeable, unimaginative, unhappy, unattractive, likely to whisper rather than speak up, and likely to avoid eye contact. Thus, the indifference students were described as passive and shy, perhaps even insecure and troubled. Yet, the teachers reacted to them with indifference rather than concern.

Six relationships also were significant for concern students. Teachers perceived them as restless, likely to cheat, lacking in confidence, unimaginative, needing to be pushed rather than encouraged, and immature. Lack of confidence was the trait most strongly associated with these students. As expected, teacher perceptions focused on traits relating to poor academic performance. The only unsurprising finding was that teachers saw concern students as needing to be pushed rather than encouraged gently. This perception conflicts with the idea that concern students are hard working but limited in ability and thus dependent upon the teacher for help. This and the fact that the concern students were seen as likely to cheat suggests that they were not so conforming as other studies suggested. Nevertheless, the teachers did respond to them with concern. Apparently, this was because these students presented problems only in the academic area; they did not sass or defy the teachers like the rejection students did.

Perhaps the greatest mystery was why the teachers did not react more positively toward the indifference students. The teachers themselves pictured these students as shy, unhappy, and generally in need of help. Part of the reason probably was that these students were relatively "invisible," so that the teachers didn't notice them often even though they were aware of their problems. Another possibility is that the indifference students made the teachers uncomfortable, although the teachers did not report this.

This study confirmed certain earlier findings but contradicted others. At

this point, it seemed clear that many teacher reactions to individual students were specific to the teachers and students involved. Still, there were enough common findings across studies to indicate that certain student characteristics were likely to produce predictable responses in teachers.

Studies by other investigators further compounded these problems in interpreting teacher perceptions and their relationship to student attributes. Garner and Bing (1973) studied interaction in first grade classes in Britain, and identified several student groups or types. Although they were working independently of the lines of research described so far, one of their groups is described very similarly to the one we have been calling the attachment group, two others sound like rejection groups, and two others sound like indifference groups.

The two groups that sound like rejection groups (both had very high rates of disciplinary contacts with teachers) differed primarily in that one group was more interested in socializing than in learning and spent a lot of time talking and playing, whereas the other was seriously disobedient, defiant, and alienated. The latter group closely resembled the rejection groups seen in several studies conducted in the United States.

The two groups that sound like indifference groups (they had low rates of interaction with the teacher) contrasted in many ways. One group was characterized primarily by passivity. It corresponds closely to the indifference groups identified here. However, another group with very low rates of interaction with the teachers was composed of bright and well behaved students capable of learning independently. Apparently, they had low rates of interaction with the teachers because they neither wanted nor needed them. This suggests that low rates of interaction with the teacher are one common characteristic of indifference students, but that not all students who have low rates of interaction with their teachers are indifference students.

Power (1971) studied contrasting patterns of interaction with the teachers in four eighth grade science classrooms. He also identified what appeared to be a rejection group. These students were low achievers and were generally alienated from school and from the teachers. They sat toward the rear of the classrooms and were rarely called upon. However, when they did interact with the teacher, they were especially likely to be praised. This finding, suggesting possible guilt and compensatory behavior toward rejection students by the teachers, has appeared in some studies but not others.

Power also identified what looks like a concern group: students who were dependent and sensitive, low in achievement and apparently in ability, but nevertheless high in attitudes toward science. In contrast to our finding that teachers saw concern students as needing to be pushed, Power, like others, saw the teachers as giving the concern students easier tasks and trying to avoid overtaxing them.

Power also identified a group of what he called "success syndrome" students who look like the typical attachment group. These students were high in ability and achievement, had positive attitudes toward the class and high status among their peers, participated often and successfully in classroom interactions, interacted with the teachers often, and were willing to try to answer difficult questions and to volunteer for difficult assignments. In view of other failures to find teacher favoritism toward attachment students, it is interesting to note that Power did not report any teacher favoritism toward these students despite their positive qualities.

Rationale for the Student Attribute Study

Considerable information about teachers' beliefs, attitudes, and expectations and their relationships to teacher-student interaction has been reviewed.

This is only a fraction of the information available, but it is enough to indicate the state of the field. Certain findings are generally well established although they have not been replicated in one or more studies, while issues remain clouded as conflicting information continues to accumulate. One problem is the absence of clear theories to integrate and organize the data. Another is the great variety of methods used and questions asked. This makes it difficult to compare studies even when they purportedly address the same questions.

In our view, however, the biggest single source of confusion in this area is the fact that most studies have been small and isolated, so that conflicting interpretations of findings cannot be resolved by turning to related data. Relatively few studies have included both information about teacher perceptions of students and information about student characteristics or classroom behavior. Even when they have, there are questions about the degree to which the teacher perceptions were accurate and about what the behavioral data mean.

We have come to see that even the most reliable behavioral information cannot be taken at face value, because it may not mean what we think it means. Praise is not necessarily reinforcing, and it does not necessarily indicate positive teacher attitudes toward a student. Criticism sometimes is a way to communicate positive expectations. Frequency of teacher-student interaction usually is associated with good teacher-student relationships, but teachers sometimes call on students to get their attention, and sometimes they have high frequencies of interaction with rejection students because they intervene to handle disciplinary problems often.

There are even more questions about self report data from teachers. Taken at face value, they seem to add rich detail and elaboration to teacher expectation and attitude data. They help indicate other characteristics that teachers

notice about students in particular expectation and attitude groups, as well as some of the reasons why teachers hold the expectations or attitudes that they hold. However, like any self report data, teacher self report data are distorted by halo effects, logical errors, and other sources of bias or inaccuracy.

The Willis and Brophy (1974) data on rejection students provide a good example. If you attend only to what the teachers had to say about these students, it is easy to see why the teachers rejected them, and also to see that teacher rejection was strong and unambiguous. However, when you inspect the objective test data from these students, you discover that teacher perceptions of their academic abilities were wrong. The teachers saw them as low ability students, but the test data showed that these students did not differ from their classmates in test scores. Thus, the teacher perceptions hang together nicely to make a consistent picture, but at least some of them were incorrect. This raises questions about the rest of them.

Concern about these and related questions led us to design the Student Attribute Study. We wanted to pursue the questions raised by the studies reviewed so far, but to try to answer them more definitively. One important aspect was to include a large sample of teachers and students. Studies involving small numbers of teachers are very sensitive to the unique attitudes and preferences of the teachers involved, so that their data may not be generalizable to other teachers. For example, we have seen that some teachers expect a sex difference in first grade reading achievement and some do not, and that some teachers try to push concern students but other teachers try to minimize stress and move them along slowly through patience and encouragement.

These findings are not necessarily contradictory. They come from studies with small samples, and they might accurately reflect the attitudes and behaviors

of the teachers involved. To try to avoid this problem, we wanted the Student Attribute Study to have a sample of teachers large enough to make it likely that such individual differences would cancel out. Thus, whatever findings emerged would be likely to generalize to most teachers.

We also wanted a broad and deep data bank, which included information thought to be objectively true and other data on teacher perceptions of unknown accuracy and teacher-student interactions of unknown meaning. By using the "objective truth" points as anchors, we could assess the accuracy of teacher perceptions and interpret the meaning of the teacher-student interactions.

Planning based on these considerations led to the longitudinal and complex study that we call the Student Attribute Study. The sample included 27 teachers and their students in four separate grades of elementary school. Data sets included expectations and attitudes of both teachers and classroom observers, self reports collected both with forced choice checklists and interviews, information about classroom processes collected through both high inference ratings and low inference coding of discrete behaviors. By analyzing these data in relationship to one another simultaneously, we hoped to answer some of the questions raised or left unresolved by previous data. The data collection and analysis methods used in the Student Attribute Study will be described briefly in the following chapter, after which we will discuss the highlights of the findings.

Chapters two through five were a review of what was known when we began the Student Attribute Study about teacher attitudes and expectations, their effects on classroom behavior of the teacher, and the effects of certain student characteristics on teachers. The rationale behind the study was to clarify the relationship between these elements and to describe in more detail what characteristics in students led to certain teacher perceptions and behaviors. We wanted to know more about the dynamics of the classroom and how perceptions of students affected teacher behaviors toward them and how the students themselves reacted to different teacher behaviors. As the study has progressed, we have become more aware of the cyclical nature of the classroom interactions, and have begun to see that one cannot simply discuss as isolated topics teacher effects on students, student effects on teachers, the effects of perceptions on behaviors, and the effects of behaviors on perceptions. This point of view will be developed throughout the rest of the book as the results of the Student Attribute Study are presented and discussed.

The results of the study should provide a clearer way of looking at what goes on in classrooms between students and teachers as they really are: human beings with preferences, opinions, attitudes, and expectations about one another.

This chapter is a description of the data collected in the Student Attribute Study and an overview of the rest of the book. Enough information will be provided here to enable the reader to understand Chapters 1 through 18 in which results based on these data will be discussed. However, readers wishing a more detailed description of data preparation and analyses are referred to Appendices A-F.

Keep in mind that the purpose of all types of data collected was to answer questions such as: "What are the characteristics of students perceived by their teachers as calm (mature, objects of attachment, objects of concern)?"

For this purpose, we selected 13 scales to measure various student characteristics. These particular scales were chosen because previous research and experience had suggested that they defined attributes and attitudes which were important in the classroom. We used these scales in order to classify students in various ways so that we could look at what perceptions and behaviors were associated with a particular expectation or attitude. Please bear in mind that these classifications are not the only way that students can be described. However, the continua described by the scales were useful ways of organizing our thinking about what students in general were like. In no way do we imply that a particular student should be expected to follow a certain pattern of behavior simply because the teacher perceives him as "immature," but we do present the results as useful ways of analyzing what goes on in classrooms between students and teachers.

The 13 scales were presented to the teachers in the forms described in Appendix A.—Throughout the book we will refer to them in shortened form as listed below.

1. Calm
2. Careful
3. Happy
4. Achieving

5. Mature
6. Cooperative
7. Creative
8. Attractive
9. Persistent
10. Attachment
11. Concern
12. Noticeable
13. Eye Contact

Three groups were involved in the Student Attribute Study: the students, the teachers, and the classroom observers.

Three hundred and sixty-two students in grades two through five in public elementary schools were the focus of the study. They are referred to as "target" students. There were approximately equal numbers of boys and girls. Information about the types of schools attended by the students is given in Appendix A.

Twenty-seven teachers were involved in the study. All were women with varying amounts of teaching experience. Since all of the teachers were female, teachers in general in the book will be referred to as "she."

There were 16 classroom observers who were primarily university students who were juniors, seniors, or graduate students. Most were majoring in either education or psychology. They were trained to collect data for the study and did not know the students or the teachers involved before the beginning of the study.

Data Collection

Six sets of data were collected. The first five measured perceptions of adults about students, and the last one measured behaviors which occurred in the classrooms.

1. Teacher rankings of all students in their classes on 13 scales.
2. Observer ratings of all students on 13 scales seen during the observational phase of the study (referred to as "target" students).
3. Teacher adjective descriptions of target students.
4. Observer adjective descriptions of target students.
5. Observer checklists of behavior of target students.
6. Classroom observation data collected about interactions between the teachers and target students in their classes.

Data collection took place over two school years, although most data were collected in the spring semester of the second year. The following timetable outlines the relationships of the different sets of data:

	<u>November</u>	<u>February</u>	<u>March</u>	<u>May</u>
Year 1	1st teacher ranking	2nd teacher ranking		3rd teacher ranking
Year 2		4th teacher ranking	Selection of "target" students; Beginning of classroom observation data, continuing into May.	5th teacher ranking; Observer ratings; Teacher adjective descriptions; Observer adjective descriptions; Observer behavior checklists

Teacher Rankings

The information obtained from the teachers' rankings was used to select the target students who were the focus of the study. As discussed previously, we wanted to collect information about students on whom we had reliable information and descriptions. Although we felt that teachers' perceptions generally were accurate and valid indicators of their students' characteristics, we also were aware that there would be differences of opinion among teachers about the same student, and also that students are not always stable on a given characteristic over time. For this reason, we used the reports of two teachers over a period of two years to identify students who were perceived consistently on certain characteristics. In this way, we could talk about, for example, "happy" students, "uncooperative" students, or "careful" students with some degree of certainty that our descriptions were valid and not the result of one individual's (possibly biased) perception at only one point in time.

Data Collection Procedures

The teachers participating in Year 1 of the study (those teaching grades one through four) were given forms for ranking their students on the 13 scales (See example in Appendix A). They filled in the names of all of the students in their classes on each scale according to their perceptions of each child's placement within the class. Therefore, students could be identified who were high, middle, or low in their relative standing on each scale. This procedure was followed three times during the first year, in November, February, and May.

In February of the second year, teachers in grades two through five in the same schools completed the same scales. These teachers were ranking

the same students who had been ranked in Year 1, but now they were in the next higher grade. The teachers also ranked any newcomers to the school, so that placement on a scale reflected a student's position in the whole class, not just his relationships to those students who also had been ranked the preceding year. Again, each child could be classified as high, middle, or low on each scale, according to the teacher's ranking.

After this fourth set of teacher rankings was collected, data were compiled for all students for whom we had four sets of rankings. This requirement eliminated any student who had moved into or out of the school during that period. From this group of students, we identified those who were ranked consistently on one or more of the 13 scales. By consistent rankings, we meant that a student was seen the same way (was ranked in similar positions on the scale) at each of the four times he or she was considered. For each of the 13 scales, the consistently perceived students were subdivided into high, middle, and low groups. Students classified as "high" had been ranked high on the scale in question on each of the four previous rankings. Similarly, those classified as "middle" were ranked this way all four times, and so were those classified as "low."

The students consistently seen as stable on one or more scales were considered "target" students. They were observed 10 times in the classroom during a six weeks period, and other data were collected about them after these observations. To further assure the validity of the classification of the target students, a fifth teacher ranking was completed at the end of the second year, and students who had not retained their previous stability were reclassified.

Therefore, for any given child, we might have a collection of data like this: (H = high; M = middle; L = low).

<u>Student #412</u>	<u>Ranking Time</u>					<u>Final Classification</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
(female, 4th grade)						
Calm	H	H	H	H	H	Consistently high
Careful	M	L	M	H	M	Inconsistent
Happy	M	L	M	L	M	Inconsistent
Achieving	L	L	M	M	M	Inconsistent
Mature	M	M	H	M	H	Inconsistent
Cooperative	M	M	M	M	M	Consistently middle
Creative	L	L	M	L	M	Inconsistent
Attractive	M	M	M	M	M	Consistently middle
Persistent	H	H	H	H	H	Consistently high
Attachment	M	M	H	H	M	Inconsistent
Concern	H	H	M	M	M	Inconsistent
Noticeable	H	M	M	L	L	Inconsistent
Eye Contact	L	L	M	M	M	Inconsistent

This information from the teacher rankings would be used to identify this student as a consistently high calm and high persistent student who was in the middle range for cooperation and attractiveness. Therefore, all of the information collected about this student would be used in an analysis of these four scales to answer the questions: What are the characteristics of very calm students? very persistent students?

somewhat cooperative students? somewhat attractive students? Her data would not be used for the other nine scales, because she was not a consistent example of the characteristics associated with these scales.

For further information about the targets for the study and the 13 scales, see Appendix A.

Summary of Teacher Ranking Data

For each of the students included in the study, we had scores on one or more of the 13 scales. The scores were either high, middle, or low. Such scores indicated that the child was perceived in a consistent fashion in the rankings on that scale given by a teacher in Year 1 (three times) and by a teacher in Year 2 (two times). If a student's five rankings for a given scale (say careful) did not fall into a consistent pattern, his or her data was not considered in answering the question, "What characteristics are shared by students who are perceived by teachers as careful?"

Observer Ratings

The classroom observers used the same 13 scales as the teachers. The information provided by the observer ratings was used to assess the validity of the teacher rankings, by comparing the perceptions of the teachers with those of the less involved classroom observers who had different roles to play. (For information about comparisons of teacher and observer perceptions, see Appendix C.)

The observer ratings were similar in many ways to the teacher rankings, except that:

1. The observers only rated the target students, instead of all the students in the class, as the teachers had done. (Remember that the purpose of having the teachers' rank all of the students in a class was to select those who would be targets. The observer ratings did not affect the selection of targets in any way.)
2. Rather than rank order all target students on each scale, the observers rated each one separately as being high, middle, or low in comparison to all of the other target students observed in several classes at different grades. Therefore, they were not ranking target students in comparison to specific individuals, as the teachers had done. Instead, they were providing more global impressions by rating them.

The differences in technique were used because the observers were less familiar with each class as a whole (they had been asked to focus their attention on only about half the members of any one class -- the target students).

Since two observers collected data in each classroom, and therefore on each target student in that classroom, they each completed the 13 ratings for each student (independently of each other). The two sets of ratings for each student then were combined. Even though every target student was not to be included in the analyses for every scale, the observers were asked to rate every target student on every scale, so that they would not need to be told on which scale(s) a student had been seen consistently by the teachers.

The observer ratings on our female fourth-grader, #412, might have looked like this: (For purposes of combining the two observers' ratings, a single rating of high was given a value of 3, a middle was considered as 2, and low as 1. The numbers for the combined rating are the sum of the two separate ratings. Combined scores of 2 or 3 were considered low, 4 and 5 were middle, and 6 was high.)

Child: #412	Rating, Observer 1	+	Rating, Observer 2	=	Combined Observer Rating
Calm	H (3)		H (3)		High (6)
Careful	H (3)		M (2)		Middle (5)
Happy	M (2)		M (2)		Middle (4)
Achieving	M (2)		M (2)		Middle (4)
Mature	H (3)		M (2)		Middle (5)
Cooperative	M (2)		M (2)		Middle (4)
Creative	L (1)		L (1)		Low (2)
Attractive	M (2)		M (2)		Middle (4)
Persistent	M (2)		H (3)		Middle (5)
Attachment	M (2)		M (2)		Middle (4)
Concern	L (1)		M (2)		Low (3)
Noticeable	M (2)		M (2)		Middle (4)
Eye Contact	M (2)		L (1)		Low (3)

Summary of Observer Ratings

Each target student was rated by each of two classroom observers on the 13 scales. The scores of the two observers were added, and the student was assigned a score of high, middle, or low on each scale to represent the observers'

perceptions of his or her standing on the 13 attributes defined by the scales.

Adjective Descriptions by Teachers and Observers.

These two sets of data will be discussed together because they are similar. There were two purposes in collecting them.

1. Other perception data were very structured. That is, the persons who reported their perceptions of the students did so according to standard directions to score every student on every measure. We also wanted the spontaneous reactions of the teachers and observers about the target students, so that we could see what characteristics came to mind about students who had been characterized in certain ways on the 13 scales. This could not only further validate the scales themselves, but also could provide information which we had not anticipated.

2. By having both the observers and the teachers supply descriptions of the same students, we could compare the two groups on another type of information, in addition to comparing their ratings and rankings to examine their different perceptions. (See Appendix C for these results.)

The procedures followed were similar for both groups, except that there were two observers and only one teacher responding for each student. Each adult was asked to provide three adjectives describing the most salient characteristics of each target students. To avoid biasing the data, students were not identified on the basis of the scale or scales for which they had been selected as targets. Also, the two observers created their descriptions independent of each other.

In addition to the three adjectives, the teachers and observers were asked to provide any other pertinent information about the students which might have affected their behavior in the classroom. In this way, we learned of medical problems or home situations which might have influenced other information.

After the adjective descriptions were completed, a scoring system was developed so that the information would be more useful in data analysis. This was done by separately pooling all of the adjectives given by the teachers and by the observers, and then, still separately for the two groups, classifying synonymous adjectives, such as "outgoing" and "friendly." When these categories of synonymous adjectives were formed, decisions were made about which categories contained enough instances to be useful for statistical analyses. The resulting scoring systems contained 37 categories for the teachers and 31 for the observers. Twenty-five of these categories were shared in common. Some categories were scored for both positive and negative examples, and other categories were scored only for presence or absence. The listing of the adjective categories appears in Figure 6-1, and a detailed account of the development and use of the scoring system appears in Appendix D.

As an example, consider the adjectives given by the teacher and observers who were familiar with student #412:

Teacher: "_____ is quiet, well-behaved, and gets along well with her friends. She was absent a great deal at the beginning of the year due to chronic tonsillitis but is now better after having her tonsils and adenoids removed."

Observer 1: "Quiet, hard-working, but not a real good student."

Observer 2: "Quiet, almost shy, eagerly does what she is told."

This information was scored in this way:

Teacher adjective description:

"quiet" - a positive score in category 4 for teacher adjectives.

"well-behaved" - a positive score in category 6 for teacher adjectives.

"gets along well with her friends" - a positive score in category 12 for teacher adjectives.

"absent due to tonsillitis" - noted as being present in categories 30 and 31 for teacher adjectives.

% positive = 100. ($100 \times \frac{3}{3}$; All three adjectives given by the teachers were positive in tone, and the medical information was non-evaluative.)

Observer adjective description:

"quiet" - a positive score in category 4 for observer adjectives
(The student was scored only once for this, even though both observers mentioned this trait.)

"hard-working" - positive score in category 8 for observer adjectives.

"not a real good student" - a negative score in category 10 for observer adjectives.

"almost shy" - a negative score for category 1 for observer adjectives.

"eagerly does what she is told" - positive score for category 5
for observer adjectives.

$$\% \text{ positive} = 60\%. \quad (100 \times \frac{3}{5}).$$

Summary of Adjective Descriptions

Each target student was described by his or her teacher and both classroom observers. None of these people knew on which scale or scales this student had been ranked consistently, so their responses were not based on knowledge of other data. Adjectives then were scored by placing them into categories. Therefore, each student had two sets of scores derived from the adjective descriptions: one set derived from adjectives provided by the teacher, and one set derived from those given by the two observers.

Observer Checklists of Behavior

After the observers had completed their classroom observations, they completed a checklist of 40 behaviors for each target student they had seen. This was done in order to measure the observers' general impressions of certain more global behaviors than were measured by the coding system. However, even though the list is composed of behavior descriptions, the observers' responses were not immediately verifiable. They were based on their perceptions of the students. Therefore, this data set is considered perceptual in nature, even though it concerns descriptions of specific behavior.

Originally, the observers used a checklist of 40 behaviors. After data were collected on the original 40 items, the checklist was reduced to six scores by a process known as factor analysis, in which items with similar meaning which are correlated with one another are combined into larger items.

(A reproduction of the original checklist and details concerning factor analysis are contained in Figures 2 and 3 and in Appendix B.) The six final categories were:

1. Bolsterous, disruptive
2. Passive, unemotional
3. Good peer relations
4. Poor peer relations
5. Low self-esteem
6. Clumsy, lethargic

Therefore, we had sets of data for each students such as the following:

<u>Student #</u>	<u>Checklist Item</u>	<u>Score</u>
412	1. Disruptive	Very low
	2. Passive	High
	3. Good peer relations	High
	4. Poor peer relations	Very low
	5. Low self-esteem	Medium
	6. Clumsy, lethargic	Low

Summary of Observer Behavior Checklist

Each student was rated by two observers on a checklist of behaviors. The two ratings were combined, and each target student had, as a result, possible scores ranging from very low to very high for each of six summary behavior categories.

Classroom Observation Data

The last set of data was the largest, and, in many respects, the most important, since it provided objective information about the target student's classroom behavior and interactions with the teacher. Every other piece of information which has been discussed has been based on the perceptions of teachers and observers. Such data has validity, but it is important to support it with other data which can be accepted as much closer to the objective "truth."

The classroom observation data was based on a coding system devised by the authors to be used in this investigation (Brophy, King, Evertson, Baum, Crawford, Mahaffey, & Sherman, 1974). Its design was based on certain questions which we wanted to answer. Therefore, it is one way, though not the only way, of looking at classrooms for some specific information. However, it suited our purposes in investigating the research question of interest: What characteristics are associated with students who are seen consistently by their teachers in certain ways? We were especially interested in measuring levels of classroom activity in different contexts and measuring the affective nature of interactions by including the responses of both the teachers and the students to one another. In this way, we hoped to learn what caused teachers to respond to students in certain ways, and how the students in turn responded to the teachers.

The details of coding with this system are included in Appendix B along with a copy of the coding form used. In this chapter, brief descriptions of each category of coded behavior will be presented so that the reader will understand the following data presentation chapters. It may be useful to refer back to this section or to Appendix B while reading the rest of the book.

There were three major divisions in the coding system: public response opportunities, private interactions, and behavior related interactions.

Public Response Opportunities

These were academic interactions occurring in front of other students. We considered two situations in which such interactions occur: general class (the entire class is involved in a discussion or question-and-answer session) and small group (only a few students are involved in an academic discussion with the teacher). This distinction seemed important because much teaching occurs in small group settings in the early grades, and we expected to see some differences in interaction patterns between the two settings.

All of the categories discussed below were coded in either context.

A. Method of selection. We were interested in how students were chosen to answer questions in class. One of these four categories was used to describe selection:

Non-volunteer - The teacher called on a student to answer who had not raised his or her hand and had not called out the answer.

Volunteer - The teacher called on a student who had raised his or her hand to volunteer in a calm and patient manner.

Wave - The teacher called on a volunteer who had waved his or her hand enthusiastically, indicating eagerness to respond.

Call out - The teacher responded to a student who had called out the answer without being called on by the teacher first.

B. Teacher feedback to answer. We were interested in any evaluative response given by the teacher to students' answers.

Praise - The teacher praised the answer.

Criticism - The teacher criticized the answer. Note that these categories referred only to teacher responses to the quality of the answer, not to the student's behavior. Praise or criticism of behavior is discussed in the section on behavior-related interactions.

Private Interactions

These were contacts between the teacher and student which were essentially private, although other students might overhear them. Besides being interested in how many and what kind of contacts occurred, we wanted to know whether they were initiated by the teacher or the student. We also wanted to know how the non-initiator of the interaction reacted to the initiator. With these needs in mind, we developed the following categories of types of private interactions:

Work-related contacts, either teacher-initiated or student initiated. These interactions involved discussion between the teacher and a single student about that student's work.

Housekeeping contacts, either teacher-initiated or student-initiated. These dealt with non-academic "jobs" necessary for the class to run smoothly. For example, the teacher might ask a student, or a student might request to pass out books, carry a note to the office, or feed the fish in the aquarium.

Personal contacts, either teacher-initiated or student-initiated. Personal contacts included non-academic needs of one individual not relevant to the entire class. These might be sharpening a pencil; going to the bathroom or water fountain, locating a sweater, or cleaning up the area around one's desk because it was impeding one's work.

Social contacts, either teacher-initiated or student-initiated. These involved interactions between the teacher and student which could be called social in nature, since they did not concern any needs to be met. For example, there might be comments on new clothes, an upcoming trip or holiday, or a student's family.

In addition to these categories of contacts which could be initiated by either teacher or student, we recorded two other kinds of student initiations. Approval-seeking was noted when a student approached the teacher with work, but was obviously not seeking help. Instead, he or she was expecting to show the teacher good work and received praise for it. For example, the student might say, "Look how much I've done so far!"

Tattling on another student was also noted.

Once an interaction was classified into one of these six categories, it was then further described in terms of who initiated it, teacher or student emotional reaction, the length of the contact, and other pertinent information, depending on the type of interaction. Below is an outline of the categories used to further describe each type of interaction.

Work-Related Contacts.

A. Teacher-initiated: The teacher approached the student to begin the interaction. Three types of information were recorded:

1. Quality. This was noted in order to describe the involvement or effort expended in the contact. The teacher could observe without saying anything, there could be a brief verbal interaction (only one to two sentences, or there could be a long verbal interaction.

2. Evaluation. If the teacher praised or criticized a student's work after initiating this contact, it was noted.

3. Student emotional reaction. If the student responded in either an extremely positive, happy manner or an extremely negative, unhappy manner, it was noted.

B. Student-initiated: The student approached the teacher with a question about school work. (Note: This category does not include behaviors classified under Approval-seeking.) Two types of information were recorded:

1. Quality. Again, this described the effort expended by the teacher in the contact. The teacher could refuse to listen to the student, have a brief contact, or a long contact.

2. Teacher emotional or evaluative reaction. If the teacher offered praise or criticism of the work or seemed extremely impatient with the student, the response was noted.

Housekeeping Contacts.

A. Teacher-initiated. The teacher approached a student and asked him or her to perform some classroom errand. In addition to noting when this occurred, two other characteristics of the interaction were noted if relevant:

1. Thanks. If the teacher thanked the student after the job was done, it was noted.

2. Reward. If the teacher presented the request as a reward for good behavior, it was noted. For example, the teacher might say, "Because you have finished your work first, I'm going to let you take this note to the office."

B. Student-initiated. The student approached the teacher and asked to do a job or run an errand. Three types of information were recorded about such interactions:

1. Refusal or approval. It was noted whether the teacher allowed the student to perform the job or not.

2. Thanks. If the teacher thanked the student after doing the job, it was noted.

3. Reward. If the teacher gave permission to do the job and presented it as a reward for good behavior, this was noted.

Personal Contacts

A. Teacher-initiated. The teacher approached the student about some personal need of his or hers. In addition to noting that this occurred, the student's reaction was noted when it was either extremely positive and happy or negative and unhappy.

B. Student-initiated. The student approached the teacher with a request concerning some personal need. Three types of information were recorded:

1. Refusal or approval. It was noted whether or not the teacher let the student do what he or she wanted.

2. Teacher emotional reaction. When the teacher responded in an extremely positive, happy way or an extremely negative, unhappy way, this was noted accordingly.

3. Reward. If the teacher approved the request and stated that it was due to the student's good behavior, this was noted.

Social Contacts.

A. Teacher-initiated. The teacher approached the student and began a conversation about a social topic. Besides noting that this occurred, the student's emotional reaction was recorded if it was either extremely positive

and happy or extremely negative and unhappy.

B. Student-initiated. The student approached the teacher and brought up some social topic. The teacher's reaction was described as either a refusal (the teacher would not listen to the student), brief (the teacher gave some minimal attention and response to the student's initiation), or long (the teacher interacted with the student in a social contact with more than a brief comment.)

Approval-Seeking (Student-initiated only.)

Two types of information were recorded:

1. Refusal or feedback. It was noted whether the teacher responded to the student with some feedback about his or her work or refused to listen to the approval seeking.

2. Praise or criticism. When the teacher praised or criticized the student's work, it was noted.

Tattling (Student-initiated only)

When a student went to the teacher to tattle on a classmate, the teacher's response was noted: either listening to the student (approving) or rejecting his or her attempt to tattle.

Behavior-Related Contacts

These formed the third major category of behaviors coded in the system. They were noted whenever a target student was approached by the teacher and corrected because of the student's behavior. When this occurred, three types of information about the contact were noted: the student's behavior which caused the teacher to interact with him or her, the type of behavioral

correction delivered by the teacher, and the student's emotional reaction to the correction.

A. Student behaviors. The type of student behavior leading to the correction was noted. The possibilities are listed on the coding sheet presented in Figure 1 of Appendix B. When types of student misbehavior are discussed in the results chapters, they are described as categories of behaviors rather than the individual behaviors noted on the coding sheet. These were classified into typical misbehaviors, both disruptive and non-disruptive, aggression directed toward the teacher, aggression directed toward peers, poor coping behavior, and non-interactive, anti-social behavior.

B. Teacher responses to student behavior. There were six possible ways in which the teacher could respond to the behavior. They are listed below in order of increasing severity.

1. Praise was recorded when the teacher liked the behavior and said so.
2. Non-verbal intervention was noted when the teacher gestured or used a facial expression to show that she was displeased.
3. Management was coded when the teacher gave a behavioral correction or direction in a non-critical, non-threatening, calm manner.
4. Warnings involved a more severe correction which implied a threat, although this was not stated. The teacher had obvious irritation in her voice, although she was not greatly angered.
5. Threats were considered occasions when the teacher specifically threatened punishment if the behavior did not stop or was not corrected.

6. Criticism was the harshest level of teacher correction. It involved either extreme anger and/or punishment.

C. Student response to teacher correction. Whenever the student responded in either an obviously cowed manner (acting as if he or she was humiliated and mortified) or a sullen and defiant manner, it was noted.

In addition to the three major parts of the coding system (response opportunities, private contacts, and behavior-related contacts), observers noted any adult critical incidents whenever they occurred. These included:

1. Appointing a student as a monitor to take names while the teacher was out of the room.
2. Holding a student up as a good example in front of the entire class.
3. Holding up a student as a bad example in front of the entire class.
4. Flattery.
5. Physical affection.

When classroom observations were completed, a score was computed for each target student of the number of times certain behaviors occurred. Details of this scoring are included in Appendix B. For example, within a set time period, a student might have a record indicating 48 instances of volunteering, 10 instances of happy emotional responses to teacher initiations about work, and 15 instances of being corrected by the teacher for typical non-disruptive misbehavior. Of these 15 corrections, 10 were managements and 5 were warnings.

Summary of Classroom Observation Data

Information was gathered for each target student about his or her behavior in the classroom. These behaviors, as well as teacher treatment of the student, were classified in a number of ways according to the coding system. The end result was a record of frequencies of different types of behaviors which were observed during the observation sessions and which described the student's interactions with the teacher.

Data Analysis

When all of the types of data just described were completely collected, they were used to answer the questions posed by the study. In order to analyze the data, each scale was considered separately. The scores of students who had been consistently ranked on a scale were examined for systematic differences on the measures between students ranked as high, middle, and low on each scale. This information is presented in the rest of the book.

In the chapters following, statements will be made about students who were high or low on the scales. Keep in mind that every statement is based on a comparison of the three groups of students who were ranked consistently on a particular scale. This means that a statement like "Achieving students were called on more often after volunteering" means that "Students who were consistently perceived by their teachers as high on the achieving scale were much more likely to be called on in class after volunteering than students who were consistently perceived as middle or low on the achieving scale."

When statements are made about comparisons between different groups on a scale, the results are based on one-way analyses of variance for each dependent variable, using the high, middle, and low positions of each scale as classifying variables. When statements are made about associations between scales, the results are based on correlations and partial correlations.

Overview of Chapters Seven through Eighteen

The rest of the book presents results from the Student Attribute Study. Chapters which simply present the results are interspersed with chapters discussing and interpreting the findings. Chapter Seven examines sex differences. All types of data are considered and examined for differences between boys and girls. Chapter Eight presents the findings for differences between the grade levels. Chapter Nine summarizes the findings from these two chapters and discusses them.

Chapter Ten presents the results of analyses for the three scales of calm, careful, and mature. These have been grouped together because they each describe an aspect of student tempo or activity level. Chapter Eleven presents the findings for the achieving, persistent, and creative scales. These scales are discussed together because they indicate the academic characteristics of students. Chapter Twelve is a discussion of the six scales just named which define the more salient aspects of the student's academic role in the classroom.

Chapter Thirteen presents the results for the scales of attractive and happy, Chapter Fourteen for noticeable and eye contact, and Chapter Fifteen for cooperation. These five scales describing student personal characteristics

are discussed together in Chapter Sixteen.

Chapter Seventeen presents findings for the attachment and concern scales which are discussed in Chapter Eighteen. These two scales are grouped together because they define teacher attitudes.

All of the results chapters (7, 8, 10, 11, 13, 14, 15, and 17) are organized according to the same format. Each scale is presented in turn. First discussed are the associations of the scales with the other 12 scales. Then results for the adjective description variables are presented, followed by the behavior checklist variables.

After all of the results for the perceptual measures have been given, then the classroom observation findings are presented in the following order: response opportunities for both the general class and the small group settings, response opportunities considered separately for each of these contexts, private work contacts, private non-work contacts (housekeeping, social, personal, and tattling), and behavior-related contacts.

Tables are included in the results chapters for analyses of the adjective description and behavior checklist variables for the scales discussed in that chapter. Appendix F contains tables of results of the classroom observation variables for all scales. In the chapters presenting results, the numbers in parentheses refer to variable numbers in Appendix F.

Figure 6-1: Adjective Description Categories

1. Sociable	26. Attractive	
2. Mature	27. Dependent	
3. Happy	28. Good home	(Scored for teachers only)
4. Quiet	29. Creative	"
5. Helpful	30. Medical problems	"
6. Well-behaved	31. Often absent	"
7. Confident	32. Sweet	"
8. Motivated	33. Underachiever	"
9. Intelligent	34. Cries easily	"
10. Achieving	35. Untrustworthy	"
11. Good Worker	36. Broken home	"
12. Popular	37. Good teacher relations	(Scored for Observers only)
13. Aggressive	38. Female stereotype	"
14. Responsible	39. Bossy	"
15. Active	40. % positive	
16. Considerate		
17. Inattentive		
18. Temperamental		
19. Unobtrusive		
20. Athletic		
21. Humorous		
22. Other negative		
23. Other positive		
24. Social leader		
25. Likeable		

We have noted that elementary teachers usually favor girls over boys in questionnaire responses, but that this sex difference may be due to differences in student characteristics rather than to female teacher bias towards female students or against male students (Brophy and Good, 1974). A number of considerations favor this interpretation. First, studies of male teachers, though few in number, agree in suggesting that male teachers have the same kinds of attitudes towards and interactions with their students as female teachers do, at least as far as student sex is concerned (Good, Sikes, and Brophy, 1972; Lahaderne and Cohen, 1972). Also, considerations of sex role socialization suggest that, during the elementary years, the female sex role is very compatible with the student role, but the male sex role during these years is not. The traditional socialization of girls towards verbal activities and responsibility, and the traditional socialization of boys towards physical activities and competition make it likely that girls will do better in their studies and will conform more closely to classroom rules.

This helps explain not only much of the teacher questionnaire data but also certain replicated findings from classroom observational research, such as the finding that males usually get much more criticism for misbehavior than females. Finally, observational research which has linked teacher behavior to student behavior classified by sex of student has indicated that student behavior, not student sex, is the primary determinant of teacher behavior such as praise and criticism or reward and punishment.

The large sample of teachers and students included in this study, combined its rich and varied body of data, made it ideal for assessing these interpretations of the relationships between student sex, teacher attitudes, and teacher-student interactions. This was done through a series of analyses of

variance. This is a statistical technique used to compare group means and determine the statistical significance of any differences observed. In this case, the analyses were two-way analyses of variance using sex and grade as classifying variables and teacher rankings, observer ratings, adjective descriptions, checklist variables and observational data as variables to be analyzed in relationship to sex and grade. Such analyses allow simultaneous assessment of sex differences, grade differences, and interactions between grade and sex, in which these two classifying variables operate so that certain combinations differ from others (see next chapter). The findings for student sex will be presented and discussed in the present chapter. Grade effects and interactions between grade and sex will be presented in the next chapter.

Here, as throughout the book, all differences discussed are significant at or beyond the .05 level, unless otherwise indicated. This means that statistical tests for significance of differences indicated that the probability of finding these differences by chance alone was only .05 or 5%. To put this another way, we are at least 95% confident that the differences are real and likely to replicate elsewhere, at least in similar settings (elementary schools populated by predominately white, middle class students).

Teacher Rankings

Teacher rankings were analyzed only for those target students who were perceived consistently across the five sets of rankings on each scale. In contrast, observer ratings were analyzed for all target students, whether or not they had been perceived consistently by the teachers. This meant that the sample of students included in a given analysis was smaller for the teachers than the sample included in the parallel analysis of observer ratings on the same scale, but the

students in the teacher ranking sample were more stable and perhaps more extreme, on the average, than the total group included in the observer rating sample. Despite the smaller samples, this stability factor may have made significant differences, especially sex differences, more likely to appear in the data from teachers than the data from observers.

Significant differences appeared for 11 of the 13 teacher rankings, and all of them favored the girls. Teachers saw the girls as calmer, more careful, more mature, higher achieving, more persistent, happier, more attractive, more likely to maintain eye contact, and more cooperative. They also were more likely to mention girls as objects of attachment and less likely to mention them as objects of concern. They also ranked girls higher on creativity, but this sex difference was not significant.

Given the large numbers of students included in these analyses, it was possible for sex differences to be statistically significant even if group differences in scale means were small. Even so, these data provide an overwhelmingly consistent picture of sex differences in teacher attitudes. The sex difference on all 12 of the scales that can be characterized as reflecting favorable vs. unfavorable perceptions favored the girls, and 11 of these differences were significant.

Boys were ranked generally higher on noticeable, but not significantly so. This was something of a surprise, since previous studies of this variable almost always reported a difference favoring the boys. Perhaps the explanation is methodological. The fact that we provided the teachers with class rosters to refer to when making their rankings may have reduced teacher tendencies to rank boys as noticeable. If we had simply asked the teachers to name their students from memory, as others have done (Jackson, Silberman and Wolfson, 1969), a significant difference for noticeable might have appeared. In any case, the teacher ranking data bear out

many previous findings showing that elementary teachers' perceptions of girls are much more favorable than their perceptions of boys.

Observer Ratings

The girls also were perceived more favorably by the classroom observers, but the sex differences were not as strong or consistent. Significant differences were obtained here on six of the 13 scales. Girls were seen as calmer, more careful, higher achieving, more persistent, more cooperative, and less likely to be objects of teacher concern. Non-significant differences favored girls on the mature and creative scale, and favored boys on the happy scale. Minor and inconsistent differences appeared for attractive, attachment, and eye contact.

The observer ratings agreed with the teacher rankings in picturing the girls more positively, but significant differences were obtained on fewer scales. Furthermore, non-significant trends in the observer ratings were in the same direction as the teacher rankings on only two other scales, and they were in the opposite direction for the happy scale.

Third and fourth grade boys had notably higher observer ratings for noticeable than the girls in these grades, but the girls had slightly higher ratings in second and fifth grade. The overall sex difference favored the boys slightly but was not statistically significant. Thus, the observers were no more likely than the teachers to see the boys as salient. This may have been partly because they were instructed to systematically to observe and code all target students. Even so, though, sex differences would be expected on this scale if boys were systematically more noticeable than girls. These observer data reinforce the teacher data in suggesting that, in this study at least, boys were not particularly more noticeable than girls, despite previous findings. This could be a quirk in the present

sample, or it could indicate a real change in student behavior related to the changes in sex role expectations and sex role socialization which have been advocated (and apparently practiced to some degree) in recent years. If a blurring of sex role differences is actually going on, traditional sex differences on noticeable and related traits may disappear.

However, we should not forget the six significant differences. Girls were rated by the observers as higher in achievement, effort, and classroom cooperation, three of the student characteristics most central to the student role and most vital to the teachers. Given these and the other significant differences in the observer ratings, certain of the teacher rankings make sense, particularly those for maturity and attachment. On the other hand, the teacher rankings on happy and attractive might reflect halo effect from other traits rather than accurate perception of these specific student attributes.

Adjective Descriptions

The teachers were more positive in their perceptions of girls than boys in their adjective descriptions, just as they were in their rankings. About two-thirds of their comments about girls were positive, while only about half of their comments about boys were positive. Significant sex differences revealed that girls were more likely to be described as helpful, motivated, and sweet, while boys were more likely to be described as aggressive, active, and inattentive. These perceptions fit sex role stereotypes, picturing the girls as sweet and cooperative and the boys as inattentive, misbehaving, and unmotivated. In view of these differences, it is surprising that significant differences did not appear for variables like work habits, achievement, or likeable.

One additional sex difference appeared in the teacher adjective description variables: boys were seen as more humorous. On balance, this probably is positive,

because most of the adjectives in this category were positive ones suggesting a good sense of humour or being funny. However, the category did include being silly, so that even this difference cannot be taken as clearly favorable to boys. In summary, the adjective description data from the teachers echo the ranking data by systematically picturing the girls more favorably, although sex differences are not nearly as numerous or consistent.

In contrast to the clear favoritism toward girls in the teacher adjective descriptions, the observer adjective descriptions were more balanced. The percentages of positive statements were 55% for girls and 54% for boys, a negligible difference. Furthermore, the pattern of significant sex differences in observer descriptions was very different from that of the teachers. Observers agreed with the teachers only in seeing boys as more active and less cooperative. However, they also described boys as more athletic and described girls as quieter, more dependent, bossier, and more likely to have good relationships with the teachers. They also had more "other negative" descriptions of girls (statements which were negative but did not fall into any of the other categories).

These data also fit traditional sex role expectations, but they enrich the picture given by the teachers. They expand it from traits central to the student role to other attributes which also are typically associated with sex role differences. Based on child development research, we would expect boys to be seen as louder, more self reliant, and more athletic, and girls to be seen as quieter, more dependent on the teacher, and less athletic. We might also expect more girls to be described as "bossy," because this term has a female connotation for most people. Most probably, aggressive girls were described as "bossy," but aggressive boys were more likely to be called "aggressive." Another factor is that "bossy" appeared on the behavior checklist used by the observers, so that they were more

likely to use this term than the teachers, for this reason. Finally, it is notable that all sex differences in the observers' descriptions were linked closely to established sex roles, even though other data suggest that sex role expectations did not affect observer perceptions much.

If taken at face value, this indicates that such differences really exist and can be seen, at least by classroom observers whose perceptions are not focused on matters central to teaching and learning. However, one could argue that at least some of the differences were due to the effects of sex role expectations on the observers' perceptions. Perhaps the observers noticed athletic boys but not athletic girls, noticed quiet girls and loud boys more than they noticed quiet boys and loud girls, and called similar behavior aggressive when it occurred in males but bossy when it occurred in females. It does not seem likely that this was an important factor, but it cannot be ruled out.

Some differences in perspective and even disagreements are apparent here. Observers were not nearly as favorable about girls as teachers were. Also, their descriptions of boys as more self reliant but girls as more teacher dependent seem to conflict with the teacher rankings and even with the ratings of the observers themselves on the persistence scale. It is possible that the observers had different things in mind when they rated teacher persistence than when they rated self reliance vs. teacher dependence, even though most of the adjectives used in these categories relate to persistence in working on assignments. If this is the case, the present data conflict not only with the teacher rankings of persistence, but also with the observers' own ratings of persistence.

Other interpretations are possible, however. Perhaps some of the adjectives suggesting teacher dependency in girls really reflected more frequency of initiation of contacts with the teacher, without intending any actual dependency.

It seems clear that girls interacted with the teachers much more than boys under circumstances where they didn't need help, but this may reflect only stronger identification with the teacher rather than greater dependency on them. Also, some of the persistence ascribed to boys may have involved persistence in seeking a variety of goals, perhaps including some that the teachers resisted, rather than persistence in working on assignments.

The data on bossy bring up two points worth mentioning. First, the observers apparently identified certain girls as aggressive in their peer interactions. The child development literature suggests that girls typically show aggression or domination by verbalizing, while boys more often do it through physical means, and the present data fit this. Nevertheless, it is noteworthy that the observers noticed these girls, but the teachers apparently did not. Perhaps the teachers were so familiar with these girls and their "bossy" behavior that they didn't think of it as especially noteworthy. Again, too, the observers were sensitized to this pattern because "bossy" appeared on the behavior checklist (although this doesn't explain the sex difference).

Secondly, note that girls were described more often than boys both as quiet and as bossy. Obviously, these were not the same girls. This illustrates a larger point that applies to all of the group data: group differences on various measures are not necessarily produced by the same individual students, so that they cannot necessarily be generalized to the group as a whole. In the present example, the data indicate that more girls than boys were notably quiet and that more girls than boys were described as bossy. However, these two groups probably did not overlap at all. In any case, it is clear that neither term characterizes girls in general. The same is true for all of the group differences we will discuss.

Recall that Martin (1972) cautioned against interpreting sex differences as representing general differences, because he found that one subgroup of boys had unusually good patterns of behavior and relationships with teachers, while another subgroup of boys had unusually poor ones. These subgroups were producing what appeared to be general sex differences, but the differences really were due to the subgroups.

A similar thing can be seen among the boys here. Note that observers described boys both as less cooperative and as more self-reliant. As with the descriptions of girls as quiet or bossy, these descriptions of boys probably applied largely or even totally to different individuals. Thus, boys in general probably were neither more self-reliant nor less cooperative than girls in general. Instead, a subgroup of boys probably was notably more self-reliant than students in general, and another subgroup of boys probably was notably less cooperative than students in general. To save space and avoid redundancy, we will not repeat these distinctions every time we discuss a group difference, but remember that this is what most group differences really mean.

Behavior Checklist

Significant sex differences appeared on just one of the six behavior checklist variables. As expected, boys were seen as less well adjusted to the student role. They were less attentive, more disruptive, and less able to get along well with teachers.

Observational Data

Sufficient data were available to carry out analyses on 154 of the 164 classroom observation variables. Of these 154, 41 yielded significant sex differences.

The results will be presented in sections organized according to the type of variable and the classroom context involved.

Total Response Opportunities

There were few sex differences here, indicating that opportunities to answer questions or make comments in public discussions, to recite or read aloud, to respond to problems at the board, or to make other public responses were distributed evenly between the sexes. Boys were praised more frequently than girls for responding correctly when teachers called on students who did not have their hands up (34). Also, a greater proportion of the academic interactions coded for boys were public response opportunities rather than private work contacts (38). Since there was no difference in frequency of public response opportunities, this finding reflects a difference in private contacts, which will be discussed later.

It is worth noting at this point that the single significant difference on a teacher praise or criticism variable in this context favored the boys. That is, boys were more likely to be praised than girls if they answered correctly when called on as non-volunteers. Sex differences on praise favoring boys are not unusual, even though boys typically get much more criticism for misbehavior than girls do.

General Class Public Response Opportunities

Like public response opportunities as a whole, public response opportunities which occurred in general class discussions (as opposed to small groups) showed few sex differences. Girls got more response opportunities after waving their hands vigorously in an attempt to be called on (24). Also, a greater percentage of the girls' answers given in situations in which they waved their hands before being

called on were followed by teacher praise (25). Apparently, girls were more likely than boys to seek response opportunities vigorously by waving their arms and pleading to be called on. At least, the teachers called on them more often following such hand waving, however. Also, the teachers apparently approved of hand waving by the girls, because they praised the girls relatively more when they were called on and did answer the question after waving their hands to get recognition.

In contrast, boys were more likely to call out answers without permission (27). Taken in combination, the sex difference data here suggest that the girl's strenuous efforts to obtain response opportunities "legitimately" might have been reactions to being ignored. That is, the boys apparently were not inhibited from calling out answers without permission, so that those who really wanted to answer apparently took this route in order to do so. Girls with similar motives apparently did not go to the extent of calling out, but they did go out of their way to catch the teacher's attention and make it clear that they wanted a chance to respond. Also, the girls may have been more interested in courting the teachers' favor (being singled out for a response opportunity), another reason why they may have made such clear efforts to follow the rules even when eager to respond.

Response Opportunities in Small Groups

Most of the small groups coded in this study were reading groups, although occasionally spelling groups, math workbook groups, and other small groups were observed. The small group data are similar to those for whole class discussions. The girls had a greater proportion of response opportunities obtained by volunteering (7), and they also received more teacher praise for answers given in these volunteer situations (8). The only other sex difference here was the proportion

of responses which had been called out which nevertheless were praised by the teachers (14). The boys were more likely than the girls to be praised in these situations.

Taken together, the data from public response opportunity situations suggest that the girls confined themselves to approved methods of obtaining responses: volunteering by raising their hands (although occasionally waving them or actively trying to get teacher attention). In contrast, the boys were more likely to dispense with these "legitimate" attempts to get recognition by calling out answers without permission. Even so, boys were given more praise for called out answers than girls, at least in small groups.

Apparently, the teachers had adapted to student sex differences in patterns of seeking response opportunities. As a result, girls were praised more frequently when they responded correctly after volunteering and being called on, while boys were more likely to be praised after they had been called on as non-volunteers or after they had called out answers without permission.

If the teachers did not want the students to call out responses, these data mean they were reinforcing boys inappropriately, adapting their own behavior to the boys' preferred modes of behaving rather than trying to change these modes. This would not be unusual: studies in classrooms and in many other contexts suggest that, when people are faced with persistent undesirable behavior, they sometimes not only fail to reinforce desirable behavior when it occurs, but also inappropriately reinforce undesirable behavior. This usually happens without awareness, but it happens often.

The idea that teachers were adapting their behavior to student behavior (whether consciously or not) is supported by certain other findings. For example, praise tended to be distributed equally to both sexes (16, 17, 30, 31), except

for the differences noted above. These differences indicate that each sex was praised in situations that were "typical" for that sex. Also, the fact that teachers called on boys as non-volunteers more often suggests that they recognized that boys did not volunteer as much (even though they called out more often). Presumably, the teachers called on boys as non-volunteers more often to equalize the students' opportunities to respond in public situations. However, at times the teachers may have called on students (especially boys) as non-volunteers in order to get their attention or control their behavior.

Private Work Contacts

The percentage of student initiated private contacts which were related to work was higher for boys than for girls (93). As we will see, this was because girls initiated more non-work contacts with the teachers. In this case, however, the teachers did not respond with compensatory behavior. As with student initiated contacts, a greater proportion of teacher initiated private contacts were work contacts, as opposed to non-work contacts. Thus, when either the teacher or the student initiated a private contact, the contact was more likely to involve work rather than some other concern if the student was male.

Besides initiating a greater percentage of work contacts with boys, the teachers criticized boys more often during these work contacts than they criticized girls (42, 160). Note that this was criticism for poor work rather than misbehavior, and that it was clearly criticism rather than merely negative feedback. Thus, the teachers more often criticized boys than girls for poor or sloppy work on their seatwork assignments (presumably for good reason; note, however, that no direct data on quality of work were collected).

Student emotional reactions during private work interactions were coded as positive or negative if such reactions occurred. The boys had a higher percentage

of negative emotional reactions during teacher initiated work contacts (44). Thus, boys had more private work contacts with the teachers, both because they sought out the teachers more often and because they in turn were sought out more often by the teachers. However, they also received more teacher criticism in these contacts, and, perhaps understandably, they were more likely to respond negatively to the teachers.

Girls were higher than boys in both frequency and proportion of student initiated private contacts coded as approval seeking (105, 156). The girls sought out the teachers more often to show their work and seek praise. This probably meant that the girls generally were doing better work, completing their assignments successfully, faster, or more often (again, this is an inference; no direct data on quality of work were collected). On the other hand, boys had more work contacts with the teachers prior to the completion of the work, presumably because they had questions or problems and required help. The teachers sought out the boys more often to check their work prior to completion, apparently because they felt the need to do this more often.

Private Non-work Contacts

Girls initiated more housekeeping contacts than boys (157), and even so, they had a higher proportion of these requests approved (115). Boys had a greater proportion refused (114), even though they made such requests less often. These data could reflect sex differences in socialization which made females better able to anticipate teachers' needs and/or to ask to do favors in ways likely to meet with approval. However, in the early grades girls generally achieve better than boys, so that teachers may grant more of their housekeeping requests simply because the girls have finished their work or because the teachers know that they

will need less time to complete it. In any case, the teachers were more willing to assign housekeeping tasks to girls. It should be noted that this probably is not related to sex role expectations. "Housekeeping" tasks included a great range of things, few of which were associated with the female sex role (passing out books, moving things, cleaning erasers, etc.).

In contrast to the data for housekeeping contacts, boys received more teacher initiated personal requests (145). These mostly involved asking boys to clean up their desks or areas, take off or put away clothing, or attend to some other personal task. This sex difference may reflect a teacher control method used to get boys to do things that girls do on their own without having to be told. If so, this is another indication that girls are better socialized to the student role.

Student initiated personal requests showed a pattern similar to that for housekeeping requests. The girls had a higher proportion of these requests granted (121), and the boys had a greater proportion refused. This could be viewed as teacher favoritism of girls, but it may mean only that girls are more likely to make what teachers view as "reasonable" personal requests.

There were no sex differences concerning purely social contacts. However, sex differences did appear with regard to tattling. As with other variables in this set, girls had a higher proportion of their tattles approved (the teacher accepted the information with a minimal response or took action on the basis of it), while the boys had a higher proportion refused (127, 126). Again, this may represent teacher favoritism towards girls, or it may mean that girls are more skilled in knowing when and how to "tell on" someone.

Combination scores adding together different types of private contacts also revealed some sex differences. Girls initiated more private contacts with the

teachers than boys (154), especially housekeeping, approval seeking, and personal contacts. Also, the proportion of total contacts with the teachers which were private non-work contacts was higher for girls (89).

Several major themes appear in the data presented so far. First, there were few sex differences in total response opportunities, but girls apparently volunteered more often and more actively for such opportunities, and they got more praise when they answered correctly under these circumstances. In contrast, boys were called on by the teacher more often but also called out responses without permission more often.

The data on private contacts show that, when boys seek out the teacher, they usually do so to discuss their work assignments. Also, teachers seek out boys for private contacts concerning work more often than they seek out girls. Furthermore, they criticize them for poor work more often than they criticize girls. Data for teacher criticism in student initiated and teacher initiated work contacts combined reveal that boys get much more than girls (133).

The data for non-work contacts are very different. Here, girls typically initiate many more than boys, and they are much more likely to have their requests concerning personal or housekeeping matters approved than boys are. These data may reflect teacher bias in favor of girls, or they may simply reflect better socialization to teachers and schools on the part of girls. Another possibility is that this is one way that teachers try to "reward" students who are cooperative and achieving.

Behavior Related Contacts

As expected, boys showed many more behavioral problems than girls (147). A strong sex difference appeared on every measure of misbehavior, in each case in-

dicating greater misbehavior by males. Also, boys had a higher proportion of behavioral contacts which involved negative teacher responses to their behavior (74). This naturally raises the question of whether the sexes differed in severity of misbehavior as well as in frequency, a question that the coding system was designed to address.

Boys had a higher proportion of behavior contacts coded as typical misbehaviors (61). These were non-disruptive misbehaviors such as socializing when they should have been working. However, they also had a greater proportion of disruptive behaviors (63). Girls had a greater percentage of non-disruptive misbehavior, such as social chatting or inappropriate solitary activities like daydreaming (62). So the boys had not only more, but more serious, misbehavior.

Furthermore, boys had a higher incidence of aggression directed against the teacher (64). In contrast, girls had higher proportions of behavior indicating poor coping ability, such as crying, pouting, sulking, or becoming upset (66). These data make it clear that boys misbehaved more frequently than girls, and that their misbehavior was more seriously disruptive of classroom activities and more defiant and threatening to the teacher's authority. Given this, let us examine the data on teacher reactions to misbehavior.

Recall that teachers could respond to misbehavior, in increasing order of severity, with non-verbal intervention, simple management responses, warning, threats, or criticism (including punishment). Analyses of these variables revealed that boys had more misbehaviors disciplined with management responses (70) and with threats (72). These sex differences were much less extreme than the sex differences in quantity and type of misbehavior, indicating that teachers were exercising restraint under the stress of provocative and often defiant misbehavior on the part of the boys.

Nevertheless, the boys were coded much more often for responding to behavioral interventions with defiance, sullenness, anger, resentment, or contemptuous responses such as telling the teacher off (76).

Conclusions

The sex difference data generally replicate previous findings, although they enrich the picture somewhat. On the one hand the teacher rankings and adjective description data suggest a strong bias against boys. Some of the sex differences perceived by teachers were corroborated by the classroom observers, but many were not. Furthermore, the teacher perception data indicated halo effects, with girls being perceived generally positively and boys generally negatively. This was true even for student attributes where there appeared to be no factual basis for such perceptions. In sum, the teacher self report data both replicate and illustrate with remarkable sharpness the typical findings that elementary teachers perceive girls more favorably than boys.

These perception data stand in sharp contrast to other data which indicate that, despite halo effects, teacher perceptions of sex differences are correct in many respects, and teachers do not allow these perceptions to interfere with their professionalism in the classroom. Teacher behavior towards the two sexes is generally uniform in public response situations. Sex differences do appear more often in private contact situations, although many of them suggest that teachers adapt to student differences by changing their own behavior to compensate when students do not do things on their initiative. The main exceptions to this are teacher responses to student personal requests and teacher responses to student misbehavior, which suggest that teachers (perhaps with justification) are more directive and controlling with boys.

The data on public response opportunities indicate few sex differences. The differences that do appear suggest that teachers typically respond to sex differences in student behavior by adapting to these differences in reasonable ways. Girls apparently volunteer more often and more enthusiastically, and thus are called on more often when seeking a response. They also are praised more often when they respond successfully in these situations. In contrast, boys call out answers without permission more often, even though they apparently do not volunteer as often as girls. Teachers apparently accept this behavior from boys, even though ostensibly it is against the rules, because they are likely to praise boys for calling out good answers rather than to criticize them for calling out. Also, apparently to help equalize the distribution of response opportunities (but perhaps also as a control mechanism) teachers call on boys more often when they are not volunteering to respond.

In general, the teachers seemed to distribute response opportunities, praise for good answers, and criticism for poor answers evenly between the sexes. The differences that did emerge suggest reactions to differentially preferred methods of responding (girls volunteer; boys call out answers or must be called on by the teacher).

This pattern of equalization seen in public response opportunity situations does not appear in private dyadic contacts. Here, the data favor girls. Private contacts between the teachers and boys tend to concentrate on contacts relating to work, and boys receive more criticism for poor work during such contacts. In turn, they respond more often than girls with negative affect directed at the teachers. In contrast to boys, who tend to interact with teachers prior to completion of work and usually under circumstances involving corrective feedback, girls' work related contacts more often involve seeking approval for finished work.

These data suggest that the girls work quickly and more efficiently on their assignments (assuming that work shown in approval seeking contacts had in fact been done correctly).

Among non-academic private interactions, there was a pervasive trend for the teachers to accept and approve these from girls but reject them from boys. This was true for tattling, student initiated housekeeping contacts, and student initiated personal contacts. Boys did receive more teacher initiated personal contacts, but in most of these the teachers were asking the boys to do things that the girls did without being asked. Thus, even this sex difference reflects negatively upon the boys.

In general, girls tended to seek out the teacher (97, 154) whereas teachers had to go to the boys rather than wait for the boys to come to them (142). Furthermore, teachers sought out the boys mostly for work contacts, while they often sought out the girls for non-work contacts (39). Boys did have more total contacts than girls, but the difference was due to behavioral contacts resulting from misbehavior by the boys.

The boys also had a higher proportion of contacts in which the teacher responded negatively (137), and more work contacts involving teacher criticism (133, 160). The boys also more often were sought out for contacts intended to serve as rewards (163). Again, this suggests that the teachers were attempting to equalize the distribution of different kinds of contacts and to compensate in their own behavior for differences in student behavior (assuming that the boys who avoided the teachers were the same boys that the teachers sought out).

The behavioral data indicate much higher frequencies of misbehavior, and especially of disruptive or defiant misbehavior, on the part of boys. Girls were higher only for typically inappropriate and non-disruptive misbehavior. This is

not particularly threatening to the teacher, and is not difficult to deal with quickly and easily.

From one point of view, all these data suggest that teachers possess a remarkable ability to equalize classroom participation and the distribution of praise and criticism. Pattern differences between the sexes suggest that teachers were adapting to sex differences in preferred or typical behavior, so that measures of the total number of response opportunities and the combined frequencies of praise and criticism showed no sex differences. Thus, despite the apparent preference for girls suggested by the self report data, the observational data not only failed to show teacher favoritism on most measures, but even showed teacher compensation and adjustment to sex differences in behavior (at least in public response situations).

However, the data also suggest that in many ways the teachers were being conditioned by the students. Classrooms move at a rapid pace, and teachers are continually bombarded with many and often conflicting demands which require immediate responses. Under these circumstances, it is difficult for teachers to remain consciously aware of what is happening and to take time to think about what to do before making a response. In many ways, the teachers seemed to be adapting to student differences, consciously or otherwise. The difference in teacher behavior during public response opportunities, where girls tended to volunteer but boys tended to call out answers but not volunteer otherwise, is one example of this.

The differential behavior during private contacts also can be seen this way. The findings that boys both seek out the teacher and are sought out more often by the teacher for work contacts, may mean that boys do not see much point in interacting with the teachers for other reasons, and that the teachers implicitly recognize and accept this. The greater teacher initiation of work contacts with

boys makes sense, given that boys generally do not do as well as girls at these grades, and given some of the internal evidence from this study that boys seem to have more trouble than girls completing assignments without help. Boys also misbehave more often, so that teacher initiated work contacts may function both as control mechanisms to see that the boys are working and as monitoring mechanisms to inspect their progress and provide feedback as needed.

The observational data provide reasons why teachers perceive boys less favorably than girls. Put simply, boys are less well socialized to the student role. They are more likely to provide both instructional and managerial problems to teachers, less likely to provide reinforcement in the form of positive responses, and more likely to threaten teachers with defiant behavior or frustrate them with negative emotional reactions. Despite all this, the behavioral data yield little evidence that teachers respond to these pressures in "eye for an eye" fashion. Instead, they seem to respond professionally, relying primarily upon simple management contacts or warnings and seldom resorting to threats, criticism, or punishment.

Once again, it should be kept in mind that these data do not concern teachers' reactions with boys in general so much as they concern interactions with the relative few who provided the bulk of serious misbehavior and interactions involving negative affect. It seems likely that teachers were consistently positive towards a few students, especially boys, who were consistently defiant and negativistic towards them.

In summary, the public response opportunity data suggest teacher attempts to equalize response opportunities and praise and criticism, and the behavior data indicate teacher restraint and professionalism in the face of pressures. However, the data on private non-work interactions do suggest favoritism towards girls or at least a greater willingness to engage in such interactions with girls. Girls

were more likely to receive a favorable response, and boys more likely to be receiving negative response, when they approached the teachers to tattle on another student, to ask permission to do a housekeeping chore, or to make a personal request. All of these can be seen as teacher favoritism of girls.

However, all of them also can be seen as understandable teacher reactions to differential student behavior and achievement. There is reason to believe that girls are more compliant, more verbally developed and more sophisticated in communicating, more likely to make reasonable or feasible requests, and more likely to have completed their work when they approached the teacher for permission to do something else. Any or all of these factors would make it reasonable for teachers to approve more such requests by girls relative to those of boys. Thus, the differential teacher behavior may only represent response to differential student behavior, and may have nothing directly to do with favoritism towards girls or towards members of the same sex.

In addition to sex differences, it is important to consider grade differences before going on to relate teacher and observer perceptions to classroom observations. Until fairly recently, educational researchers often generalized findings from particular contexts without enough attention to the limits of these generalizations. Subsequent research often revealed that findings developed in one context would not generalize to another, and sometimes findings from one context even were reversed in another. For example, Brophy and Evertson (1976) found that many teaching variables that apparently are effective at higher grade levels are ineffective or irrelevant in the early elementary grades. They also found that, within the early grades, teaching behavior that is effective with high SES students often is not effective with low SES students, and vice versa.

In particular, Brophy and Evertson found that the nature of the teaching-learning situation differed between the early grades, when teachers concentrate on teaching the fundamentals of the three R's, and the higher grades, when students who have mastered these basics and use them to learn other material. The students in this study were in grades two through five when they were observed in the classroom. Within this range, grades two and three could be characterized as early elementary grades with a primary emphasis on learning the fundamentals.

Among other things, this means heavy reliance on small group instruction, especially for reading, and heavy emphasis on short seatwork assignments in language arts and mathematics. In contrast, grade four and especially grade five involved much less small group instruction and much more whole class discussion. Also, the older students tended to learn independently through more extended seatwork assignments and special projects, which they could do

because they had mastered the basics of the three R's and were capable of independent learning.

These are generalizations, of course. Some students in grades two and three have mastered the fundamentals thoroughly and are capable of learning the way that students typically learn at higher grades, and many students in grades four and five have not yet mastered the basics of language arts or mathematics. These students cannot use these tool skills successfully in the process of working on longer and more complex assignments.

In any case, the possibility of important grade differences in the variables included in the study had to be investigated to find out whether the findings would generalize across the grade levels studied or whether they might be specific to certain grades. For this reason, grade was included with student sex as a classifying variable in the analyses of variance performed on the teacher rankings, observer ratings, adjective description variables, checklist variables, and classroom observation variables.

Of these data sets, the classroom interaction variables easily provide the best information about grade differences. Teachers ranked and described their students only in comparison to one another. Often they had little perspective about the range of differences among students across grades two through five, because they were familiar only with students at their own grade levels. Observers had more perspective, because they ordinarily observed at several grade levels. Even so, they were limited to a few classes in most cases. Only the classroom observation data allow grade level comparisons based upon the entire sample of target students.

These grade differences will be discussed in the present chapter. We will also discuss interactions between student sex and grade level. "Interaction"

Is a technical term for complex relationships among variables in which certain combinations of the variables yield one kind of outcome while other combinations yield another kind of outcome. This will be explained and illustrated in the latter part of the chapter when we take up interactions between grade and sex. First, however, we will discuss grade differences that apply generally to students of both sexes.

Teacher Rankings

The teacher rankings could not be analyzed for grade level differences, because each teacher ranked only her own students. Since the scores were rankings rather than absolute measures, they are limited to comparisons among students in the same classrooms. Also, since the data were forced into seven-point scales with equal numbers of students at each scale position except the middle one, the average rank score for any of the 13 scales was the same for each classroom, and consequently the same also for each grade level.

Observer Ratings

Grade level differences could be analyzed in the observer ratings, because observers typically saw students in all or most of the grade levels represented. The observers were supposed to rate students relative to other target students in the same classes, but in practice they made their ratings with reference to all of the target students they observed. This meant that students in one grade could be rated systematically higher than students in another grade.

As it turned out, significant differences by grade did appear for two of the 13 scales. As might have been expected, students in the higher grades were rated as more mature, and those in the lower grades were rated higher on the concern scale. The specific instructions for the concern scale required

the observers to rate highly those students who seemed to require more special attention from the teacher, so this difference appears to reflect differences in students' abilities to function independently of the teachers. It does not mean that teachers in the lower grades were seen as more concerned about their students than teachers in the higher grades.

Neither of these grade differences was surprising, and both seem to reflect obvious reality. Students in the higher grades are more mature than those in the lower grades, and they do require less special attention and monitoring by the teachers.

Adjective Description Variables

Significant grade differences appeared on seven of the teachers' 37 adjective description variables, but only two of these are readily interpretable. Teachers were less likely to mention student activity level in the higher grades (11), and they were more likely to describe the older students as responsible (14). Again, these differences seem to reflect reality. Activity levels and the incidence of hyper-activity is known to decrease across the elementary grades, and older students probably are more responsible than younger ones. Responsibility is of some importance at all grade levels, but less so in the early grades than later, when students are expected to do many more things on their own and are allowed to do many more things without supervision (if they are seen as "responsible" and thus are able to get permission). Thus, over the grade range involved here, student activity levels gradually reduce in their relative importance to the teacher, while student responsibility, especially responsibility in acting independently, becomes more important.

Significant grade effects also appeared for attractiveness, intelligence, achievement, work habits, and broken home, but these were not interpretable because they did not follow a clear cut pattern of increase or decrease with grade. Instead, there were patterns like grades three and four being higher than grades two and five, or grades two and four being higher than grades three and five. No grade differences with patterns like this were expected, and we make no attempt to explain those that did appear. This is because systematic increases or decreases across the four grades studied make sense to us and can be explained on the basis of changes as students become older, more mature, and better socialized, but we cannot think of reasons other than sampling error to explain grade differences which do not follow this systematic progression.

Assuming that they are real, they probably do represent sampling error. For example, it may be that, in the particular classrooms we studied, the frequency of broken homes was higher in particular grade levels. However, this would be due to purely local factors having to do with the ages of the students who came from broken homes and happened to be attending the schools we were studying. They would have nothing to do with grade or grade differences as such.

The observers' 31 adjective description variables yielded four interpretable grade differences. In general, older students were more likely to be described as mature (2), and less likely to be described as dependent on the teacher (27). These are essentially the same differences that were observed in the observers' ratings on the mature and concern scales.

In addition, older students were more likely to be described as well behaved (6). This fits with other data from the present study and from other research which suggests that students become increasingly well socialized to

the student role across these age ranges. Students in the middle grades usually are more settled into school routines than students in the early grades, and they require less supervision because they are more able to work independently for longer periods of time. Also, the students in these middle grades have not yet developed the rebelliousness and resentment of authority figures that is seen frequently among older students. Thus, across the second to the fifth grade range, students become better behaved in conforming to the student role.

Finally, older students were more likely to be described as helpful, especially fifth graders (5). From the classroom observers' perspective this probably represents the same general developmental trend that the teachers were describing when they pictured the older students as more responsible.

Like the data from the forced choice ratings, the free response adjective description variables yielded few systematic grade level differences. The few interpretable differences that were observed seem obvious and easy to explain as due to well known changes as children mature during the age and grade level range studied.

Checklist Variables

The observers detected a reduction in the frequency of disruptive and boisterous behavior across the grade levels studied. This grade difference reflects the tendency described above for students to become increasingly well socialized to the pupil role as they progress through the grade levels studied.

There were sharp drops after grade two on the checklist variables poor peer relations and low self esteem. The drop in poor peer relations probably is part of the rise in maturity and drop in activity levels discussed earlier.

The drop in obvious low self esteem probably represents a change in the way that low self esteem is manifested. Young children tend to show it quite directly and obviously, through shyness, withdrawal, fearfulness, immature dependency, and similar behaviors. However, older children often learn to cover their underlying low self esteem through "overcompensatory" behavior like showing off or acting aggressively. These indirect expressions of low self esteem are less likely to be recognized for what they are than the more direct expressions of younger children. Thus, the drop in self esteem problems that observers reported after second grade probably is an artifact caused by a change in how low self esteem shows itself, rather than a real grade effect suggesting that self esteem problems are more frequent in second grade.

There also was an increase in grades three and four in the means for clumsy and lethargic. In part, this also is due to the general decrease in activity levels across this age range. Also, though, it seems likely that notably clumsy or lethargic students would be more obvious in the higher grades, where there is much more variability in students' physical characteristics. This greater range allows for greater contrasts, making clumsy or lethargic students easier to notice and remember at the higher grades.

Classroom Interaction Variables

Grade differences observed in the classroom interaction variables illustrate the differences described previously between the teaching-learning situation as it exists in the early grades vs. the middle grades.

Total Response Opportunities

First, the average number of public response opportunities per students increased with grade level, indicating the shift from concentration on indi-

vidualized practice of psychomotor skills towards more verbal interaction (139). The same shift in emphasis was seen in an increase in the ratio of public response opportunities to total academic contacts with the teacher (1).

Other differences related to these same changes included a decrease in the proportion of individual private work contacts (37), and a decrease in the combination of work contacts and approval seeking contacts (38). In general, across the grades studied, there was a gradual shift in emphasis from private and individualized contacts to more public contacts occurring in whole class interactions.

The final interpretable grade difference concerned teacher criticism for wrong or poor answers in situations where the teacher had called on students who had not sought a response opportunity (35). There were virtually no instances of such criticism in the earlier grades, but it began to appear in the higher grades. This suggests that the teachers in the higher grades more often called on the students less likely to be able to answer correctly, perhaps as a control mechanism to try to keep these students attentive.

In any case, the teachers at the higher grades occasionally would criticize students who answered poorly in these circumstances. It should be noted, however, that the rates of such criticism were very low. It did not appear at all at either second or third grade, and the means for fourth and fifth grade were .005 and .02, respectively. Thus, even at fifth grade, such criticism was observed an average of only about once in every five or six hours. The grade effect is statistically significant because so many students were involved and because the variance was so low, but the practical significance of the finding is questionable.

Response Opportunities in General Class Activities

The number of response opportunities which occurred in the general class context increased with grade, especially at grade five (141). This indicates a shift from small group instruction, especially reading groups, towards whole class instruction. A related measure indicated a large increase in the proportion of response opportunities which occurred in the general class context at the fifth grade level (3).

The proportion of called out answers accepted by the teacher in general class discussions increased regularly with grade level (27). This may indicate that students learn when and how to call out responses in ways that will be acceptable to the teacher as they become more socialized to school. Also, slow paced discussions involving the whole class provide a more appropriate setting for called out answers than the fast paced drills typical of the earlier grades. In any case, calling out answers apparently is more acceptable to teachers in the higher grades.

Finally, teacher criticism of student answers given in general class situations increased across grade levels (31). As noted earlier, the teachers in the middle grades apparently are more willing to criticize (or less willing to accept poor responses from) their students, in comparison with teachers in the earlier grades. Again, however, the absolute rates of criticism were low. Even at the fifth grade, only about three percent of the general class response opportunities led to criticism by the teacher. In comparison, about six percent of such response opportunities were praised at the fifth grade, and the percentages of praise at the earlier grades generally were higher (although these grade differences in praise rates were not statistically significant).

Response Opportunities in Small Group Activities

Both the number (140) and the proportion (2) of response opportunities occurring in small groups dropped across grade levels. The drop was especially noticeable between fourth and fifth grade. These changes reflect the elimination of reading groups as a basic part of the daily teaching routine.

The small group data also showed an increase in the proportion of response opportunities that resulted because the teacher called upon a non-volunteer (5), just as the data for general class activities showed.

In summary, the data for response opportunities mostly reflect the shift from small group to large group instruction. In addition, they indicate that teachers in the higher grades were more likely to call on students who did not have their hands up, and more likely to criticize them if they gave poor responses. On the other hand, the teachers in the higher grades also were more willing to allow students to call out responses. These data make sense if it is assumed that the older students generally were more responsible and socialized to the student role. On the one hand, teachers could allow more calling out if such calling out tended to be appropriate. On the other hand, if teachers in these grades expect responsibility and compliance from their students, they may be quicker to take action when they do not get it (such as by calling on students who do not volunteer to respond often or by criticizing students who give poor responses because they have not been paying attention).

In addition to these considerations, the pattern of grade differences observed may reflect a difference in the "common sense psychology" of the teachers. Teachers working with younger students may be somewhat more patient and tolerant of lapses in attention or quality of work, because they expect them and/or

because they do not wish to risk frightening or inhibiting these students by being too quick to criticize. In contrast, teachers at the middle grades may expect students to have become socialized to school by the time they reach their grade, and thus they may be less patient and quicker to criticize when students fail to live up to these expectations. A related point is that, on the average, teachers and adults generally are likely to see a greater proportion of the behavior of older students as under their direct control. In comparison, younger students are more likely to be seen as forgetful or likely to misbehave without realizing what they are doing. To the extent that this is the case, misbehavior by older students more often would be seen as deliberate and perhaps personally provocative. This factor might also be involved in the greater willingness of the teachers in the middle grades to criticize students for inappropriate answers.

Private Work Contacts

Student initiated work contacts increased with grade level (98), indicating that the older students were involved more actively in managing their own learning. Teachers at these grade levels had less need to systematically monitor student work progress whether or not the students indicated a need or desire for help.

The proportion of student initiated work contacts which were refused by the teachers dropped dramatically after the second grade (99). We believe that this is another effect attributable to socialization to the student role. Second graders are less sophisticated than older students at determining when to approach teachers, and second grade teachers frequently are busy teaching reading groups and do not want to be interrupted at these times. Both of

these factors would produce relatively high rates of refusal of student initiated work contacts, and both were high in the second grade (among the grades studied).

There was a large increase in the number of student initiated work contacts at the fifth grade (155). This again indicates that the more mature students take more responsibility for managing their own learning, seeking out the teacher for help when they need it.

The percentage of total private contacts initiated by the teachers which were work contacts also increased notably at the fifth grade (40). Thus, when the teachers did initiate private contacts with fifth grade students, they were especially likely to do so for the purpose of discussing student work. In the earlier grades, a greater proportion of these teacher initiated private work contacts were related to non-work activities.

Approval seeking by the students dropped off after the third grade (105, 156). Students apparently devalue approval from the teacher as they get older, so they begin to approach the teachers to seek such approval less frequently.

Finally, the proportion of student initiated contacts which were related to work increased with grade level (110). This parallels the data for teacher initiated private contacts, and it indicates that teacher-student interaction increasingly becomes focused on matters related to teaching and learning across the grade levels studied.

Private, Non-academic Contacts

The increase in work contacts with grade level was mirrored by a decrease in non-work contacts. For example, both student initiated (113) and teacher initiated (48, 144) housekeeping contacts dropped with grade level. As the

students become more able to function independently and become socialized to school, teachers have less need to request them to perform housekeeping tasks. Also, students apparently are less motivated to perform these tasks, because they are less likely to approach the teachers and ask permission to do so.

Student initiated personal requests also decreased with grade (158). Again, older students apparently can take care of their own needs and thus need to rely less on personal requests for help or permission from the teachers.

The data on tattling showed it to be relatively frequent in second grade but not thereafter (125). This is not surprising, given age related differences in children's understanding of morality and orientation toward authority figures vs. peers. Young children concerned with rules and adult authority figures often see tattling as a duty, but older children learn that it is frowned upon by the peer group, which gradually becomes their major focus of identification.

The data on social contacts contrast with those for housekeeping contacts, personal contacts, and tattling. First, the proportion of student initiated social contacts increased with grade (128). Also, the proportion of such contacts which were refused by the teachers decreased with grade (129), and the proportion given brief responses increased (130). Thus, with increase in grade there was an increase in student initiation of purely social contacts with the teachers, and the teachers also were more receptive to such contacts in the higher grades. However, as we will see, these increases with grade in student initiated social contacts were due entirely to the activity of female students.

In summary, the data on private contacts indicate that, with increasing grade level, both the students and the teachers tend to focus more on activi-

ties relating to learning. Tattling dropped off rapidly after the second grade, and housekeeping and personal contacts decreased across grade level. Student initiated social contacts increased, but only among the girls. The general picture suggests that, as students move through these grades, more and more of their interactions with teachers center on work or purely social matters. Fewer and fewer of them involve discipline, classroom management, or personal concerns.

Behavior Related Contacts

The rates of behavior contacts decreased with grade level (60, 147). This indicates that students became better socialized to school expectations across these grades. Also, behaviors considered as "typical" misbehaviors were proportionately more frequent in the higher grades (61). Thus, students in the middle grades misbehaved both less often and less disruptively than the younger children (but see below).

Aggression toward peers remained relatively constant across the second, third, and fourth grades, but it increased substantially at the fifth grade (65). This indicates that certain fifth graders were beginning to mature and show the adolescent behavior patterns typically seen in junior high school.

Data on teacher responses to student misbehavior indicated that the teachers notably increased their reliance upon management responses as the students matured (70, 79, 82). Apparently, in the higher grades, simple management requests and orders were enough to handle most situations, so that warnings, threats, and criticism or punishment were unnecessary.

Behavioral praise, which was coded when teachers singled out individual students to praise their good conduct or other exemplary classroom behavior,

decreased sharply after the second grade (68). Like the data on tattling and certain other data presented previously, this finding probably reflects the fact that children change in their orientation towards authority figures vs. the peer group as they mature. The change in teacher behavior probably reflects teacher recognition of these changes in the students. Singling out students for praise might well function as a positive reinforcer in preschool and in the first grade or two but it is likely to backfire after that.

Teachers showed a strong increase in the rates at which they pointed out the good behavior of a student in order to hold up that student as a good example to the rest of the class at fifth grade level (149). This was unexpected, and the reasons for it are unknown. Given the developmental changes in children just discussed, this strategy probably was not effective. It seems more likely to irritate than motivate fifth graders.

The proportion of behavioral responses made by the teachers which were non-verbal interventions dropped with grade level (69). This probably is yet another manifestation of the increasingly complete socialization of students to the pupil role that occurs across these grade levels. As student misbehavior decreases, so does the need for teachers to respond to it. Teachers do not need to systematically go around the room and monitor students individually (this is where most non-verbal interventions occur), and, as students become more verbal and more attentive, it is simplest to address the student and provide a brief management response if behavioral intervention is necessary.

In summary, the data on behavioral contacts indicate a drop in such contacts across the grade levels studied. This happens because the students increasingly become socialized to the student role and thus willing and able to follow the teacher's wishes (although there was an indication that rebellious-

ness was beginning to creep in at fifth grade). Also, teachers increasingly responded to the behavioral problems that did arise with simple management responses, with correspondingly less reliance on non-verbal interventions or more negative reactions such as warnings, threats, criticism, or punishment.

Summary of Grade Effects

The interpretable grade differences indicate several trends which take place as children move through the elementary grades. First, classroom interaction becomes focused increasingly on academic work, and it increasingly takes place during public interactions conducted in whole class contexts. Private interactions dealing with matters other than work tend to drop out, especially tattling. Also, small group interactions drop out in favor of whole class interactions. The difference is observable at fourth grade, but it becomes very clear at fifth grade, where few small groups were observed.

The students apparently become better socialized to the pupil role, so that the frequency of managerial and disciplinary contacts drop. Older students do call out more responses without permission, but apparently they do so in ways that are increasingly appropriate, because the teachers accept such behavior at the higher grades. However, some fifth grade data indicate that students at this grade were beginning to become disciplinary problems.

Teachers at the higher grades were more likely to respond to misbehavior with simple management requests or commands. More intense or negative reactions apparently were not necessary. However, these teachers apparently had higher and more rigid expectations for student performance in academic situations. They were quicker to criticize students for failing to respond correctly and more likely to call on non-volunteers than teachers in the earlier grades.

Although the students apparently become better socialized to the student role with age, they (especially the boys) apparently become less oriented toward teachers and more oriented toward peers. They tend to stop approaching teachers to tattle on one another after second grade, and they seldom approach the teachers to seek approval after third grade. Except for an increase in initiation of social contacts on the part of girls, measures of private teacher-student interactions indicate an increase in focus on work related matters across the grade levels observed. This was true for student initiated as well as teacher initiated interactions.

Interactions of Grade Level with Student Sex

The sex and grade effects discussed in the previous chapter and so far in this chapter are called main effects. When these are statistically significant, the implication is that they operate independently of each other. Thus, a sex difference presumably occurs at all grade levels, and a grade level difference presumably occurs in both sexes. If both effects are significant, their effects combine. Therefore, if boys misbehave more than girls, and if misbehavior is more frequent in the early grades than in the higher grades, the combination of these two main effects means that boys misbehave more than girls at all grade levels but most extremely so at the early grade levels and least so at the higher grade levels.

Interaction effects refer to combinations of main effects that are not independent of one another and cannot simply be added together. Where two main effects interact, the result is that different combinations of main effects produce different outcomes. For example, an interaction between sex and grade level on some classroom observation variable might mean that there was no sex

difference at all in the early grades but that a clear sex difference began to emerge at the higher grades, or vice versa. Sometimes interactions might even involve reversals of group relationships, such as when boys are higher than girls on some measure in the early grades but lower than girls at the higher grades. Other combinations also are possible, as we will see in the following discussion.

The analyses of variance that were conducted provide an indication of whether or not interactions between sex and grade were statistically significant. However, in order to determine what these might mean, it is necessary to look at the means (group averages) for the eight groups involved (second grade boys, second grade girls, third grade boys, third grade girls, fourth grade boys, fourth grade girls, fifth grade boys, fifth grade girls). As with main effects for grade, we have interpreted grade by sex interaction effects only when inspection of these means revealed some kind of orderly and systematic increase or decrease on the variable involved across the grade levels studied. Other interaction effects were statistically significant, but we have not mentioned them because we cannot interpret them and believe that they represent sampling error (flukes due to the characteristics of the specific students studied, which are not likely to replicate in other studies).

Teacher Rankings

Only the calm scale produced a significant interaction in teacher rankings. Girls were ranked generally calmer than boys in the first three grades, although their relative rankings increased with grade level. By grade five, they were ranked lower than boys on the calm scale. This probably is due mostly to maturation in the boys, one result of which is a reduction in some of the high

activity levels seen in the early grades.

Observer Ratings

The observer ratings showed interactions on the achievement and persistent scale. The pattern of means was similar for those of the teachers on the calm scale. Again, girls were rated higher than boys in the first three grades but lower than boys in grade five. Inspection of the means showed that the differences were due to changes in the boys. The achievement and persistence ratings for girls were fairly stable across grade levels, but the boys received progressively higher ratings on these two scales with increasing grade. These findings support sex difference explanations based on differences in maturation rates among elementary school children, as well as previous findings that the gap between the sexes in school achievement decreases across the middle childhood years (Maccoby and Jacklin, 1974).

Adjective Description Variables

Interpretable interaction effects appeared on three of the teacher description variables. Girls were more likely to be described as social leaders in second grade, but the means for males were higher thereafter (2). Girls also were more likely to be described as responsible in the first three grades, but the mean for fifth grade boys was higher (5). These interactions seem to be part of the maturational difference mentioned earlier. Across the elementary grades, boys gradually catch up to girls in general maturation, and this shows up both in classroom achievement and in variables such as responsibility and social leadership.

There also was a significant interaction effect for humorous, but this

was a minor elaboration of a more powerful main effect for sex favoring the boys. Teachers described only one girl in the whole target sample as humorous (a fourth grader), but they described many boys this way. The interaction effect appeared because of grade differences within the means for the boys. None of the boys were described as humorous in second grade, but the percentages for the following three grades were 13%, 4%, and 12%, respectively. These differences on humorous were expected on the general idea that boys are more active and more likely to "clown around," act silly, or do funny things in the classroom.

The observers' data showed only two interpretable interactions. Girls were described as having better work habits in the early grades, but the mean for boys was higher in the fifth grade (11). This is another manifestation of the maturational difference we have been discussing.

There also was a sex by grade interaction for humorous in the observer descriptions. Girls were described as humorous slightly more often in the second grade, but there was no difference at third grade, and boys were higher thereafter. Although the sex difference in the observer descriptions was not extreme as it was in the teacher descriptions, there still was a general tendency for the observers to describe the boys as humorous more frequently.

Behavior Checklist Variables

None of the behavior checklist variables yielded significant interactions between grade and sex.

Classroom Observation Variables

Very few interpretable sex by grade interactions appeared in the classroom behavior data. There were none at all for the variables related to public res-

ponse opportunities or private work related contacts. However, a few significant and interesting ones did appear for variables concerning non-work private contacts.

Most of these concerned housekeeping interactions. Teachers initiated more of these with boys at the second grade level, but more with girls thereafter (42). Girls generally initiated more such interactions than boys, although the sex difference decreased with grade level and reversed slightly by the fifth grade (113). This interaction was due almost entirely to the differences in the behavior of the girls. Their rates of initiating housekeeping interactions with the teacher started high and gradually dropped, while the value for boys was low across all four grades.

The proportions of student initiated housekeeping requests which led to thanks (116) or which were presented as rewards (119) showed similar patterns. Boys had higher scores in second grade, but girls did thereafter. Taken together with the fact mentioned earlier that girls had more of their housekeeping requests approved (115), these findings indicate why the girls initiated more such requests. The teachers clearly responded differentially, perhaps because they saw housekeeping tasks as more appropriate for the girls, or perhaps because the girls were more adept at asking to do things which were valued by the teachers or at asking in ways likely to lead to teacher assent.

In general, the data on housekeeping interactions suggest that boys never are much interested in opportunities to do housekeeping tasks, and that teachers (perhaps in response to this) prefer to assign housekeeping tasks to girls, at least after the second grade. Bear in mind that the tasks we coded as "housekeeping" tasks were not particularly associated with the female sex role. Thus, to the extent that sex role learning is involved here, it shows itself in the

girls' greater identification with and desire to please teachers, not in the nature of the tasks themselves.

Similar patterns also appeared for student initiated approval seeking (105). Here again, boys had a higher percentage in second grade, but girls were higher thereafter. The absolute rates of approval seeking dropped across grades for both sexes, but they dropped faster for males. Thus, students in general and boys in particular become less interested in obtaining teacher approval as they move through the elementary grades.

Boys also had a higher proportion of their tattles approved by the teachers in the second grade, but girls had higher proportions approved thereafter (126, 127). This is a minor elaboration of the overall sex difference which revealed that tattles by girls were more likely to be approved than tattles by boys. Again, this appears to be related to changes with age in identification with authority figures (in this case, teachers) vs. the peer group.

The proportion of teacher initiated personal contacts which resulted in positive reactions from the students showed a complex interaction. Girls responded more positively in the lower grades, but boys responded more positively in the higher grades (54). The main cause of this interaction was that girls responded positively quite often in the first few grades, but hardly at all in grades four and five. Meanwhile, the proportions of positive responses by boys were relatively low across all grades. Taken together with similar data on approval seeking, these findings suggest that boys do not particularly value attention or approval from the teacher even as early as second grade, but that girls apparently do value it through about the third grade. However, they apparently devalue it quickly around that time, because their behavior changes sharply, to the point that they are as low or even lower than boys on measures

of positive responsiveness to the teachers.

In addition to these interactions in the private contacts categories, there were two interpretable interactions in the behavioral contacts categories. The first dealt with the proportion of behavioral contacts in which the student involved was coded as responding to the teacher in a "sullen" fashion (76). This proportion was higher for girls in second grade, but higher for boys thereafter. However, the difference should not be given much attention, because the overall frequency of the sullen reactions was very low. The means across grade levels for boys were 1%, 2%, 1%, and 2%, respectively, while the parallel means for girls were 3%, 1%, 0%, and 1%.

Thus, even the second grade girls responded sullenly only 3% of their behavior contacts with the teachers. Also, bear in mind that the absolute number of such behavior contacts probably was lower for girls than for boys, even though the proportion was higher. Boys had many more behavioral interactions with teachers than girls did. The few sullen reactions that were coded for girls probably were coded for a very small number of girls who were unusually mischievous and had unusually poor relationships with the teachers.

The final significant interaction was for teacher warnings for typical misbehaviors. Teachers gave warnings to the boys more frequently in the second grade, but they gave such warnings to the girls more frequently in the following grades (80). Again, it should be remembered that these are proportion scores based upon the total number of behavioral interactions that each student had with the teacher. Consequently, the boys had higher absolute numbers of warnings at all grade levels, even though their proportions were lower, because they had so many more behavioral contacts. At each grade level, boys had approximately twice as many behavioral contacts as girls.

General Discussion of Interaction Effects

Few interpretable interaction effects reached statistical significance, and many of these were minor elaborations of more powerful sex effects. Furthermore, the interpretable interaction effects that did appear all seem related to either or both of two general trends. First, boys are less oriented towards teachers (and usually more oriented towards peers) than girls in early and middle childhood. Our data suggest that even by second grade boys have very little interest in interacting with or getting approval from the teacher, and that they do not value such approval much even when they get it. The girls apparently do seek it and value it in second and third grade, but their behavior changes thereafter, and they begin to act more like the boys with respect to the teachers. Thus, interaction in fourth and fifth grade is very impersonal and focused upon teaching and learning for the most part.

The teachers seem to recognize and accept these student attributes rather than try to change them or compensate for them by changing their own behavior. They initiate more personalized interactions with the students who do not initiate with them. We believe that this represents an appropriate recognition of reality by the teachers. There doesn't seem to be much point, let alone likelihood of success, in trying to fight these trends.

A second factor that seems to be involved in several of the systematic interactions between sex and grade is the closing of the maturational gap between the sexes. Boys tend to lag behind girls in general maturation in the early childhood years, but they gradually close this gap and catch up in middle childhood. This difference can be seen in some of the interactions reported here for variables such as calm, responsible, and work habits. Much other research shows that these changes also make a difference in achievement. Girls generally

do better than boys in American elementary schools, but differences are much greater at the early grades than at the middle grades. Boys eventually overtake the girls at higher levels. These traditionally observed differences may disappear gradually, however, if the changes in sex role expectations being advocated presently should become well established.

Conclusion

The grade level differences and the interpretable interactions between grade and student sex provide numerous insights into the nature of teaching at these grade levels and the differences in the nature of teacher-student relationships between the sexes and across the grades. However, the number of main effects and interactions was limited, and most of those that were interpretable are readily explained on the basis of common knowledge about sex and age differences in elementary school children.

These differences were not numerous or strong enough to require separate analyses by grade or adjustment of scores to eliminate grade differences. Nevertheless, they should be kept in mind in considering the results to be presented in the following chapters. For example, data on student approval seeking were influenced most heavily by the second and third grade girls, because these girls initiated approval seeking contacts much more often than fourth and fifth grade girls or boys at any grade. Similarly, data on tattling are largely data on tattling in the second grade, because there was very little tattling thereafter. As with sex differences, we may have occasion to refer back to these grade differences and to interactions between sex and grade in interpreting some of the findings to be discussed later.

In this chapter, we will integrate the data presented in the last two chapters and point out the interaction processes which appear to be involved. When we discussed the rationale for the study, we stressed how attitudes, expectations, and beliefs are thought to affect behaviors. The processes described involved the ways in which expectations about different types of people with certain characteristics can affect how we responded to them. The initial work in this area was done with the variable of intelligence. However, an even more pervasive student characteristic, upon which many implicit expectations are based, is student sex. Most of us have built up certain ideas about what to expect from males and females.

Teachers, too, have many expectations about how male and female students will behave, what characteristics they will display. Also, based upon past experiences, they have different attitudes toward each sex. For example, if you overheard two teachers talking in the lounge about a student named Chris, and the conversation went as follows, what would you believe about the student's sex?

Ms. Farlan: "Chris did it again today! Do you remember my telling you about that little devil yesterday, and about how much the class was distracted by those antics? Well, listen to what happened today!"

What was your guess about the student? Male or female? In all likelihood, you concluded that this probably was a male. This is done easily because you have beliefs about how you expect boys to behave in school.

Another way to get at this same phenomenon is to look at what your expectations would be if an unknown student were described as the "brightest" in the class. Here you might be more uncertain. Your experience suggests

that intelligence is not a characteristic which systematically distinguishes boys and girls. However, if additional facts were added, such as that the student was the "best worker" and/or the "teacher's pet," our data suggests that a prediction that this student was female would be likely.

Some of these beliefs come from past experiences, in this case experiences which would indicate that boys show off or clown around more at this age than do girls, or that girls are likely to achieve more and behave more favorably toward the teacher. These beliefs would be functional, in the sense that they would be based on reality and would help us make "reasonable" predictions about what these students would be like. Other beliefs, however, come from more subtle and perhaps biased sources, such as societal expectations for sex appropriate behavior. An example here might be that boys will be interested in sports, while girls will not. Here we are dealing less with intrinsic differences between the sexes and more with societally imposed norms for what is "appropriate" for boys and girls.

Similar expectations are held about students of different ages. Again, some of these expectations reflect real differences (e.g., girls mature physically earlier than boys), while others are based upon what is expected in our culture (e.g., students will take responsibility for getting homework done by the third or fourth grade).

Before going back over the data presented in the last two chapters and drawing conclusions about what was found, a way of viewing these data needs to be presented. It reflects the interactive quality of the teacher-student relationship. Throughout the chapter on sex differences, we continually pointed out how teacher behavior seemed to have been elicited

by the students' behavior. This focus on the association between student and teacher behavior is only one aspect of a larger pattern which seems evident in our data. This association was stressed as a counterpoint to many of the conclusions drawn from previous research which indicate that the students are being totally shaped by their teachers' beliefs and expectations. Thus, the effect of the student's behavior on the teacher was heavily emphasized in Chapter 7 on sex differences.

In actuality, our view is that both of these positions are overly simplistic, and that a more realistic model of what we have observed needs to take into account at least four very complicated sets of variables.

1. Teachers' attitudes, beliefs, and expectations about their students (limited here to those which are seen as related to the student sex);

2. Teachers' behaviors which are directed toward different categories of students (here, males and females);

3. Different student behaviors toward their teachers (here, how males interact differently with their teachers than females); and

4. Students' attitudes, beliefs, and expectations concerning their teacher.

To make this more concrete, let us use the most general finding about how the teachers behaved and felt differently toward male and female students as an example. In study after study, data have indicated that teachers like their female students better than their male students. This finding has been discussed in terms of teacher bias; liking girls better and therefore treating them better. Our data, however, point out some fairly clear reasons why the teachers might respond more positively toward their female students. Boys typically cause more problems and are more

likely to respond negatively to the teachers. At this point, it becomes easy to look at only half of the picture, and say, for example, that boys are misbehaving as a reaction to the teachers' bias, which favors the girls. Alternatively, one could argue that the teachers' beliefs about the boys (and their preferential treatment of the girls in some cases) is perfectly legitimate, given that the boys usually are behavior problems. At this point, it may seem that one position must be right and the other wrong, and experiments could be conducted to see which is right or who is causing what behavior in whom.

Our view is (and what data exist supports this belief) that either position could be supported, because both are true. The way we view this can be represented as a circle of mutual causality. Going back to the finding that teachers are more favorably disposed toward their female students, here is how we would view that (See Figure 9-1).

Note that in this system both of the previously mentioned hypotheses are true:

1. Boys misbehave, causing teachers to have unfavorable attitudes towards them and to behave differently towards them.
2. Teachers have an unfavorable attitude toward boys, causing them to behave differently toward boys, and boys respond to this differential treatment by devaluing the teacher and misbehaving.

There are several points to consider about this model:

1. All of the elements must be operative for the cycle to continue. Thus, for example, if the teacher should change her behavior toward the males so as to be less biased, the boys behavior might change correspondingly.

2. It is pointless to try to determine original causality once the pattern has been established, because both the teachers and the students are causing the interactive pattern. Each cluster of variables, attitudinal and behavioral, in both teachers and students, combines to influence one another simultaneously.

3. There are several entry points where one could influence the cycle in order to change it. Our belief is that the major responsibility for change in this pattern must reside in the teachers. They can either change their beliefs about differences in boys and girls by becoming aware of how these affect their behavior, or they can become more conscious of their negative interactions with boys and change those.

It is within the context of this interactive model that the data on sex differences should be viewed. This study is descriptive. It provides direct data on three major links in the chain: teacher beliefs, attitudes, and expectations; teacher behaviors; and student behaviors. The fourth link, student beliefs about their teachers, was not studied directly. However, student beliefs often can be inferred, either from the behavior observed here, or from other studies. (We ourselves have conducted a major study subsequent to this one which included these data. However, its results are not available yet.)

Sex Differences

Let us begin with teachers' attitudes, beliefs, and expectations concerning their male and female students. As stated previously, the data clearly indicate more favorable teacher attitudes toward female students. On 11 of the 13 scales, females were ranked more positively than males.

More females were seen as calm, careful, mature, achieving, persistent, happy, attractive, cooperative, maintaining eye contact, being objects of attachment, and not being objects of concern. Only on creativity were girls not ranked higher. When these data are combined with the adjective description data, the following additional positive characteristics are added for girls: they are seen as more helpful, more motivated, and sweeter. Alternatively, boys were described much more frequently as aggressive, inattentive, and active. The only positive characteristic more likely to be described in boys was humorous, and even this is questionable.

These perceptions seem mostly correct. The classroom observers also ranked the girls as more calm, careful, achieving, persistent, cooperative, and as less likely to be objects of special teacher concern. However, they did not indicate sex differences on mature, happy, attractive, or eye contact. Finally, while the observers did not give a more positive picture of the girls than the boys, they did describe the girls as more quiet and as having good teacher relations. Alternatively, more boys were seen as inattentive, disruptive, and less able to get along with the teachers. In addition to these consistent findings, other sex differences indicated that more females were seen as bossy and dependent, and more males were seen as less able to get along with the teacher.

Thus, when all of the data we collected concerning teachers' attitudes, expectations, and beliefs (number 1 on our diagram) are looked at, it is apparent that the teachers did have very different attitudes toward and expectations about their male and female students. It is obvious that, in general, the girls were seen more positively.

Given the strength of the differences, which almost all clearly favor female students, it seems likely that these beliefs, attitudes, and expectations would affect how teachers interact with their students. The effects might be quite predictable, except that teachers' awareness of their beliefs could cause them to alter their behavior. For example, knowing that a teacher sees girls as more likely to be careful in completing their work assignments does not allow us to predict how this belief will affect her behavior. She could grade boys and girls differently, expect better work from girls, or give boys more feedback. Because knowing the teacher's perceptions does not allow us to specify what her behavior will be, the next step is to focus on the teacher's behavior. Given that she holds different beliefs and expectations, how does she behave?

The data on interactions between teachers and students in what we have labeled "public" situations showed relatively few sex differences. Girls were called upon as volunteers more often, while boys had their called out answers accepted more frequently. In each case, the most reasonable explanation of the differences lies not in the teachers' behavior but in the students' behavior. Apparently, the teachers more often called on students who volunteered more often, and these were the girls. However, the teachers apparently made some adjustments by allowing more called out responses from the boys and even calling on boys more frequently as non-volunteers. The end result of this was that males and females received equal response opportunities.

Similarly, there were no differences in the amount of praise or criticism received for answers given in the public response opportunity context. However, once again, there was a difference indicating that females

were more likely to be praised for answers which had been given after vigorously competing for an opportunity to respond.

The data on small group interaction patterns were very similar, with girls receiving more opportunities to respond when a volunteer was called upon to answer, and also getting more praise for answers given after volunteering. Boys, on the other hand, were more likely to be praised for answers they had called out in small groups.

From these data alone it is hard to explain these differences. However, several things seem likely. First the teachers seemed to respond to sex differences in styles of obtaining response opportunities, rather than showing bias towards one sex or the other. Second, most of the attitudinal data indicate that girls are more socialized to the student role. They are seen as more cooperative, calm, and motivated, leading one to believe that they would be more likely to respond appropriately to situational demands (in this case, to volunteer appropriately). Boys, on the other hand, seem much less socialized, being more impulsive and active. This suggests impulsive responding. The data also indicate differential reinforcement of behaviors. Girls got more praise for socially appropriate behaviors, and boys got more for less desirable behaviors. Again, the pattern is very much an interactive one.

The second major area of data collection concerning teachers' behaviors revolved around private work contacts. Here, the teacher is seeking out students to discuss work related topics. Here, the teachers sought out boys more frequently. They also criticized the boys more often during these interactions. Finally, boys were more likely to respond negatively to teachers during these interactions.

Once again, a pattern appears which fits the basic model. Boys are seen as low achievers and as having poor work habits. These beliefs are expressed in the teacher behaviors of seeking out boys for work related issues more often, and in the process, criticizing them more often. In response to this, boys were more likely to have negative reactions to the teachers. Finally, to conclude the picture, these boys probably formed attitudes, beliefs, and expectations about school work and teachers which may affect their school related behaviors (which the teachers use to form their impressions about boys, thus completing the chain).

When the student's behavior was examined, we saw that boys initiated a higher proportion of work contacts with their teachers. These probably were different boys from the ones who were in the negative cycle described earlier. Girls approached the teachers for approval more frequently.

The issue of teacher bias arises in the data on private, non-work related contacts. Here, the girls were favored very clearly. They had more housekeeping requests approved, more personal requests approved, and more tattles responded to positively. Clearly, many explanations could be offered for these differences. However, these teacher behaviors are related easily to some of their more favorable perceptions of girls. The girls more frequently are high achievers, good workers, and generally good students, so it is likely that their requests would be approved more often. However, it also is likely that such preferential treatment is not lost on the boys, and that it may be a source of some of their negativity directed at teachers. It certainly indicates why girls would initiate more private contacts with the teachers, since they quite obviously were reinforced for doing so!

Only in the area of personal requests did the boys receive more teacher initiated contacts. However, recall that these were not positive interactions, but more negative, controlling ones. This is where the teachers told students what to do (e.g., clean up your desk; pick up your papers). Hence, it is yet another example in which boys are not behaving as the teachers like, so they are told to do things directly. This fits the patterns of behaviors which help cause teachers to hold more negative attitudes toward boys.

The data on behavioral interactions showed why teachers have more negative feelings about boys. Not only were boys more likely to be achieving less in school, they also were presenting the teachers with more behavior problems. Further, their types of misbehaviors were more serious ones. They were more apt to disrupt a class or directly confront the teacher's authority. Alternatively, girls misbehaved more frequently in less disruptive ways, like talking quietly. They were more restrained and less threatening to teachers. Perhaps as a consequence, teachers reacted more negatively to boys than girls.

Data on student responses to teachers showed that boys were more likely to react negatively, threatening aggression or responding defiantly or sullenly. Girls, on the other hand, more often responded to disciplinary interventions by crying or pouting.

Before drawing any conclusions from these data, keep in mind what has been mentioned several times previously: these are averages. There is no way to know from these data whether the differences between the sexes were due to general differences, or whether certain groups of boys (or girls) caused most of them. Thus, while we have often used the phrase, "the boys ..." this most likely refers to a small group of boys rather than all boys.

With this in mind, the classroom interaction patterns seem clear. Students who give teachers the most difficulty more frequently are boys (later we will look at groups of students based on personality characteristics which will tell us more about what these boys are like). They misbehave more often and more seriously, and they also demand more teacher attention for academic reasons. As a consequence, they are more likely to be found in the lower (less positive) ends of the rankings, and more likely to be described negatively in the adjective descriptions.

Despite these negative patterns of behavior and the teachers' negative beliefs, attitudes, and expectations concerning boys, the teachers responded to both sexes very equally during public activities. What bias they may have had was only reflected behaviorally (at least in the data we collected) in the non-academic areas, where girls were favored. Even here, though, there seemed to be valid reasons for this teacher behavior. Girls were seen to be more socialized, doing better in school, and thus more "deserving" of having their requests granted (in general).

Returning to where we began, it should be clear that, to change some of these maladaptive interaction patterns, a great deal of effort on the part of the teachers is needed. They will have to become aware of how often they respond negatively to boys, and try to be aware of the effects of this behavior on how students behave toward them and how they respond to school in general.

Grade Differences

There were several major trends in the analyses of these data by grade. However, it is important to keep in mind that only those grade effects which were interpretable were reported (e.g., grade differences

which progressed up or down with each successive grade or were split between higher and lower grades).

Looking first at the data on attitudes, beliefs, and expectations, the trends suggest that students became more socialized, more controllable, and more work focused as they progressed through these grades. The combined data from teachers and observers showed the older students to be more mature, less active, more responsible, less teacher dependent, better behaved, more helpful, and less likely to be identified targets of concern. Other high inference data from the observers pointed to a lower activity level and lower frequency of disruptive and boisterous behavior. Thus, with maturation and continued exposure to school, most students apparently adapt satisfactorily both behaviorally and academically.

Turning to the more specific behaviors coded during the observations, we noted a progressive change in classroom format as students got older. Whole class discussions became more and more the predominant activity. This was most apparent in the fifth grade, with a sharp drop-off in small group activity (particularly reading groups). Across these grades the emphasis on work increases, with a decline in individual practice and individualized attention. Similarly, there was a decline in private work interactions and in the proportion of private work contacts and approval seeking contacts.

Finally, there were several indications that the teachers were responding more critically to the students in the higher grades. There were virtually no instances of criticism of answers in the lower grades, but such criticism was apparent in the higher grades. However, it remained infrequent, relative to the number of response opportunities.

What we see is an increasing focus on work. Teachers devote less time to other activities as students become more able to apply themselves to academic tasks. Also, they call upon non-volunteers more often, and begin to criticize wrong answers. Teachers seem to respect the increased ability of the older students but also expect more from them. Only in the area of called out responses was there an increase in teacher flexibility. Teachers allowed more called out responses as the students matured. This may reflect adaptation to increased emphasis on whole group activities, as well as to more appropriate and desirable call outs.

This increasing work focus also was noted in student behavior. Private work interactions increased proportionately to other private contacts, suggesting that students were seeking out the teachers more frequently about their school work but were less likely to request to do housekeeping chores, request permission to take care of personal needs, or seek the teacher's approval. The teachers also increased their rates of private work interactions, especially at the fifth grade level. They also were less likely to refuse students' requests for work contacts.

Again, this suggests changing attitudes, in teachers and particularly in students. Work becomes the major focus as ability to concentrate on tasks increases and as they become more socialized to their roles as students.

Obviously, as work contacts increased, other types of private contacts declined. This in fact occurred for student and teacher initiated house-keeping, personal requests, and tattling. However, social contacts increased with grade, due to increased social initiations by girls.

Once again, grades were more work focused. Teachers and students concentrated their contacts with one another in this area. There was less need to deal with personal issues, and apparently less desire to get approval from the teachers or to do things for them. Some of the girls made more social contacts, and the teachers responded positively to these overtures. However, for the most part, the students seemed to concentrate on the teacher's role as information giver.

Behavior related contacts indicated atmospheres more conducive to learning as the students matured. They were better behaved, dropping in both frequency and severity of misbehavior as they got older. Also, the teachers relied more heavily on simple management responses, as opposed to the more severe warnings, threats, and criticism found more in the earlier grades. Once again, it would be difficult to look at cause and effect here, because there was an interaction. Students showed fewer and less severe types of misbehavior and were more receptive to correction, and teachers responded less critically. This probably affected the students' feelings and behavior.

The only class of misbehaviors which showed an increase was aggression directed towards other students. The incidence of this behavior remained low and stable through the first three grades studied, and then showed a large increase in fifth grade. Interestingly, both sexes showed this increase, indicating that it was not just the boys who were behaving more aggressively toward their peers. This pattern of behavior is characteristic of older students, becoming even more prevalent in the junior high school.

Sex by Grade Interactions

These analyses were run to determine if students classified according to sex at different grade levels showed unique patterns. Merely because of the number of variables examined, we expected more significant effects than we actually obtained. Not only were these effects infrequent; few of them were interpretable.

There were no interpretable interaction effects in public response opportunities. Apparently, the differences observed were equally applicable to males and females across the grade range studied. Only the area of private contacts yielded many results. First, boys requested more house-keeping tasks in the second grade, but girls did thereafter. The level of such requests remained stable and low for boys. For girls, there was a gradual reduction in such behavior with increasing grade level. A similar pattern was evident in the proportion of these requests which were thanked by the teachers or granted as a form of reward. Boys received more such "rewards" in the second grade, and girls thereafter. Together with the greater number of these requests which were approved, this suggests one reason why the girls made more of these requests. The teachers clearly were providing more reinforcement to them.

This same pattern was reflected in the relative proportion of tattles approved and in the proportion of approval seeking interactions. Taken together, this indicates that student behaviors designed to "get in good with the teacher" drop off as students mature. Apparently, as reported elsewhere, teachers begin to lose their value as the peer group becomes more and more important. Interestingly, there was a very clear sex difference here. Boys apparently lose interest in teachers at a much earlier age than girls.

In the only other interpretable interactions, the teachers received both more positive responses and more sullen responses from boys in the higher grades. These probably came from different sub-groups of boys, who differed on personal characteristics and attitudes like those discussed extensively in subsequent chapters.

Conclusion

In this chapter, we have reviewed the findings concerning sex and grade differences. In addition, a model was presented for understanding the sex differences. It focused on the interactive nature of the dyadic relationship, showing that it is difficult to look at only one link in the chain and see it as the "cause" of any other link. Instead, a process of dynamic interaction is postulated. Throughout the rest of the book, we will return to the idea that sets of variables, attitudinal and behavioral, are intercorrelated and affect one another simultaneously.

Several clear trends in the data were presented. First, it is evident that teachers hold a much more positive view of their female students. While there was evidence of "halo" effects, many of the same positive characteristics and attributes also were recognized by the classroom observers, suggesting that they do in fact reflect reality.

Second, there were few sex differences noted in the public response context, either in the whole class or within small groups. Teachers provided equivalent response opportunities, praise, and criticism to their male and female students. There were stylistic differences in the ways male and female students responded: girls competed for response opportunities in socially desirable ways; boys more often either blurted out the answers to questions or had to be called on to respond.

Thirdly, differences that can be viewed as reflections of teacher bias were found in private contacts. More of these interactions were negative for males, as it turned out, negative for the teachers, too! In several different areas, girls were more likely to request things of the teacher and have these requests granted.

Data on behavioral interactions provide some indication as to why male students are held in lower esteem by the teachers. Boys provided teachers with the bulk of the discipline problems with which they had to deal. Also, their patterns of misbehavior were more disruptive to the class and more often threatening to the teacher herself.

Lastly, several important trends appeared concerning the development of the students over time. Evidence was presented that as they become more mature, they become more focused on school work activities and appreciably more socialized to the student role. Also, students more often worked in whole class activities in the higher grades.

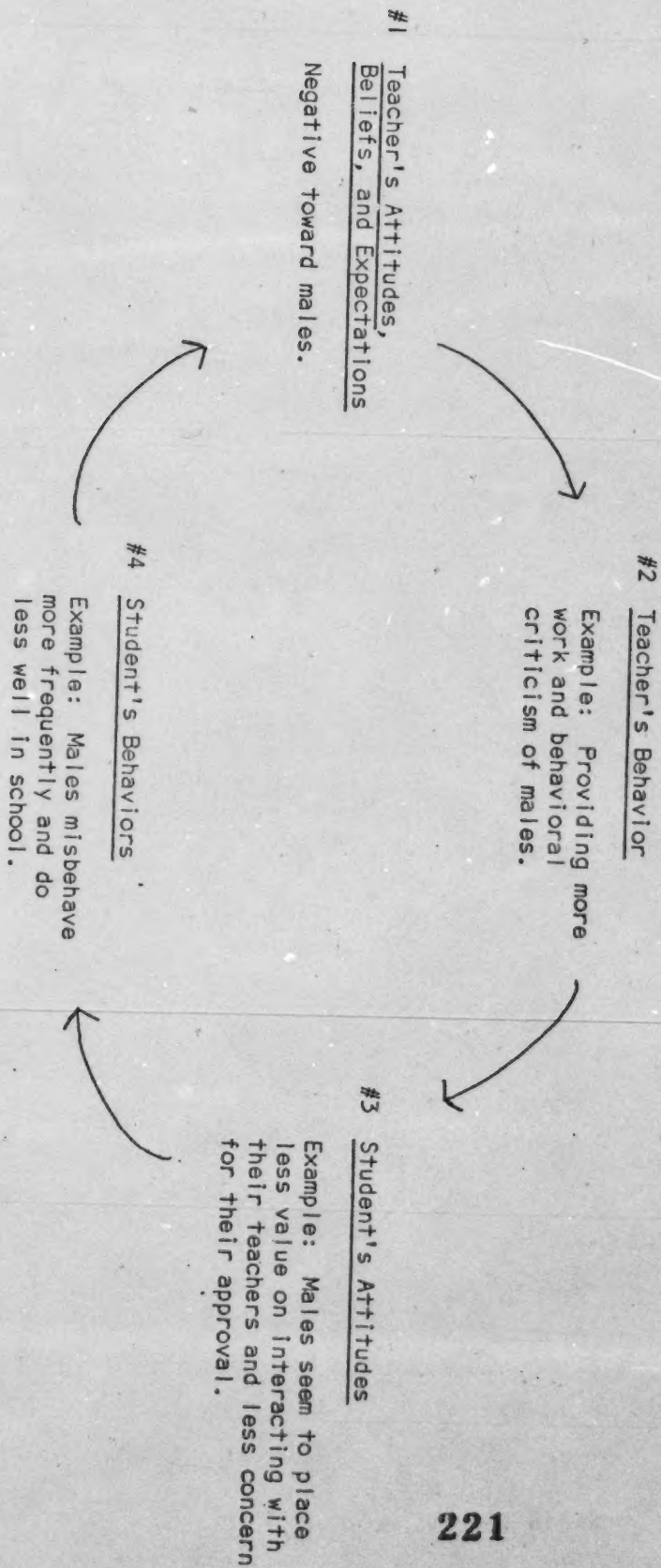


Figure 9-1.

In this chapter, we will examine the teacher rankings on calm, careful, and mature as they relate to other data. The partial correlation data presented in Appendix C indicate that these variables involve more halo effect than the others, being affected in particular by teacher perceptions of student achievement and persistence. Students rated high on these two scales almost always were rated high on calm, careful, and mature, and vice versa. Thus, as we describe the relationships between teacher rankings of students on these scales and other student data, bear in mind that these rankings represent teachers' generalized halo impressions of students to a considerable degree.

Calm

The correlation between teacher rankings of calm versus restless and observer ratings of this same attribute was .59. This was the highest correlation for the 13 scales, indicating the greatest agreement between the teachers and the observers. Comparisons of correlations between the calm scale and the other 12 scales showed the typical pattern (see Appendix C). Coefficients were in the same direction for both teachers and observers, but correlations usually were higher for the teachers. An exception was the relationship between observer ratings of calm and observer ratings of noticeable, which was a strong negative correlation (-.56). The corresponding correlation for teachers was -.25. Thus, classroom observers were likely to rate the students who were not very noticeable as being calm.

Ratings on calm were associated most highly with ratings on careful, mature, cooperative, persistent, and attachment. In addition, students rated as calm also were likely to be rated as achieving and unlikely to be

rated as objects of teachers concern. Other intercorrelations followed the general halo effect pattern, but were weaker than the ones listed (see Appendix C). In general, then, there was good agreement between the teachers and the observers both in their ratings on this scale and in the patterns of correlation with ratings on other scales.

Adjective Description Variables

There were a total of 40 adjective description variables. These included 27 coded for both the teachers and the observers, nine coded only for the teachers, and three coded only for the observers. The final variable, computed for both teachers and observers, was the percentage of adjective descriptions which were positive. Counting this percentage variable, there were 37 adjective description variables coded for the teachers, and 31 for the observers.

Significant group differences appeared for 18 of the 37 teacher variables and 15 of the 31 observer variables (see Table 10-1). Of 16 relationships for which data are available on both the teachers and the observers, the two groups agreed on 13 variables and disagreed on three. Both groups saw the calm students as being shy or unsociable, quiet, helpful, well-behaved, intelligent, achieving, good workers, popular, non-aggressive, not active, and not temperamental. They also used "other positive" descriptors more often for these students, and the overall percentage of positive statements was highest for the students rated as calm. The general picture here is almost a stereotype of the student role, suggesting a pattern of intelligence, self control, and generally positive attributes. However, notice that these students were not seen as sociable.

This point became more interesting when the disagreements between teachers and observers are examined. Although there was no significant group effect in the observer descriptions, the teachers described students seen as calm as relatively unhappy, compared to students ranked lower on the calm scale. These teacher perceptions and the data on sociability (especially the observer data) suggest that some of the calmest students were introverted and unhappy students.

However, it appears that these were a subgroup. The general pattern of descriptions of calm students was positive, and it included popularity. Thus, the majority of the students rated calm were somewhat unsociable in that they apparently did not talk much or initiate interactions often, but they still were popular with their peers.

The other two disagreements suggest halo effects in the teacher descriptions. The teachers described the calm students as highly responsible, but this pattern did not appear in the observer data. The teachers also described students ranked low on calm as being dependent as well. Perhaps it would be more accurate to say that students who were not described as dependent by the teachers were likely to be ranked high on the calm scale. In any case, the data from the classroom observers does not support this perception. These two disagreements suggest halo effects in the teacher ratings on calm.

The picture of the students ranked consistently on the calm versus restless scale is filled out some more by the remaining adjective description variables. The observers described calm students as mature, and the teachers described them as motivated and as sweet. The teachers also described restless students

as likely to be underachievers and likely to be untrustworthy. Finally, and unsurprisingly, the observers noted that the calm students had good relationships with the teachers.

Taken together, the adjective description data suggest that students rated as calm were stereotypes of the "good student" role, although the teacher rankings seemed to be inflated somewhat by halo effects. The only exceptions of the generally positive pattern were indications in the descriptions of sociability and happiness that certain students rated highly on the calm scale were introverted and unhappy.

Behavior Checklist Variables

Significant relationships for the calm scale appeared on four of the six behavior checklist variables. Calm students were unlikely to be coded as boisterous or disruptive, but they were likely to be described as passive or unemotional and as having good peer relations. These checklist variables fit closely with the general picture seen in the adjective description variables (see Table 10-2).

There also was a significant relationship for the low self esteem variable. Students ranked as calm were unlikely to be described by the observers as having low self esteem. These data seem to contradict the teacher descriptions of calm students as unhappy (to the extent that low self esteem implies unhappiness), although they fit with the more general positive picture of calm students. The calm scale was unrelated to the poor relations variable or to the "clumsy and lethargic" variable.

Classroom Observation Variables

Analysis of the relationships between teacher rankings and the classroom observation data were conducted after the classroom observation variables had been standardized within school and grade. Raw scores were transformed into distributions with means of 50.00 and standard deviations of 10.00. This means that individuals or groups who scored exactly 50.00 were exactly at the mean for their grade and school. Scores above 50 were above these means, and scores below 50 were below these means. The data are shown in Appendix F.

The analyses were analyses of variance of the standardized scores for students perceived as consistently low, medium, or high on each scale. Only students perceived consistently across all five data sets were included in the analysis for a given scale, so that the data provide information about differences among the low, medium, and high consistent groups relative to one another. Students not perceived consistently on a scale were not included in the analyses for that scale, although you can infer their score mean from the information given in Appendix F.

For example, the data for variable 23, teacher criticism of answers given by students who had volunteered to respond, show means below 50 for all three of the groups who were ranked consistently on the calm scale. This indicates that these students were given less criticism in this situation than students who were not consistent on the calm scale. Situations like this, where all three of the groups perceived consistently on a particular scale have means either below or above the general mean, are unusual, but they do appear occasionally.

Data sufficient to analyze group differences on the calm scale existed for 156 of the 164 classroom interaction variables. Of these, 52 (exactly 1/3) produced significant group main effects at or below the .05 level of confidence. This indicates that we are 95% confident that genuine group differences existed among the three consistently perceived groups on these 52 variables. In addition, all three groups consistent on the calm scale had means below the general average on 11 variables, and all three groups had means above the general average on another six variables. Findings of the latter sort are difficult to interpret, although we will do so where meaningful patterns appear. In discussing the findings for the classroom observation variables, we will cluster them in subsets like those used in Chapters 7 and 8.

1. Total Response Opportunities. There were four significant relationships here. First, there was a strong relationship between the calm scale and the percentage of contacts with the teacher that were public response opportunities as opposed to private or behavioral contacts (1). Calm students had a high percentage of public response opportunities, while restless students had a low percentage. Thus, although the calm students were calm, they apparently, were not shy.

Related findings in the opposite direction were seen for two measures of the percentage of work related contacts which were private rather than public (37, 38). Here, restless students had high scores, and calm students had low scores. Typically, patterns like these occur because the students

with more public contacts (in this case the calm students) raise their hands to volunteer more often, and partially as a result get called on more often, in public response situations.

The final variable in this group showing a relationship to the calm scale was the last measure (164), the total number of contacts between the student and the teacher. This frequency was unusually high for restless students, and low for calm students. As we will see, this is because teachers initiated many more interactions with restless students, often to intervene when these students were misbehaving.

In summary, the data in this set show that calm students had fewer overall contacts with the teachers, and that a greater percentage of the contacts they did have occurred in public response opportunity situations. In contrast, restless students had a higher overall percentage of contacts with the teachers, but this was due to higher rates of disobedience which caused teachers to have to interact with restless students to "calm them down."

2. Response Opportunities in General Class Activities. There also were four significant relationships among variables concerning public response opportunities in general class activities. These indicate, as mentioned previously, that calm students got a higher proportion of their response opportunities by volunteering and being called on by the teachers (21). In contrast, calm students called out answers without permission less often than other students, while restless students called out answers more often (27). Both of these findings were expected. They again indicate that calm students

generally conformed well to the idealized pupil role but that restless students did not.

The other two significant findings in this set provide interesting information of a kind that will be repeated several times later. Although there was no general group difference in the percentage of response opportunities which resulted because the teacher called on a non-volunteer (18), there were differences in rates of teacher criticism during these interactions. Restless students were both more likely to be praised (19) and more likely to be criticized (20) following correct or incorrect answers given when they had been called upon as non-volunteers. Thus, even though these students often provided behavior problems to the teachers, they were given more praise as well as more criticism in certain situations.

These and other data suggest that the teachers may have been trying to socialize certain students by responding to them more intensively than usual, hoping to modify their behavior this way. The present praise and criticism data provide good cases in point. Where students volunteer to answer questions or call the answers out, it is not surprising that they get most answers correctly. Also, it is unusual for teachers to praise such answers, unless they have been especially creative or insightful. However, when non-volunteers are called upon, there is a good chance that they will not know the answer. Perhaps they will not even be able to respond at all. Also, the very fact that a teacher calls on a non-volunteer suggests that the student does not volunteer very often and/or has not been paying attention.

Under these circumstances, praise for good answers and criticism for poor answers are especially likely to occur, and also to be more genuine and more elaborated. In any case, although teachers did not call upon the

restless students as non-volunteers more often, their more frequent use of praise and criticism in response to these students when they did call on them as non-volunteers suggest that they were systematically trying to get these students to pay better attention and participate more actively.

3. Response Opportunities in Small Group Activities. Only two significant relationships appeared here. As in general class activities, calm students received the greater percentage of their response opportunities by volunteering to respond and being recognized by the teachers (7). Also, restless students received a greater percentage of response opportunities, because they waved their hands or otherwise sought response opportunities vigorously (10).

This is similar to the findings for calling out reported for the general class interactions. The same trend for called out answers was seen in the small group data also (13), but it was not statistically significant. These data indicate that restless students exercised somewhat more self control in the small group situation. They less frequently lost control and called out answers, although their restlessness and impatience showed up in a greater frequency of response opportunities coded as waving volunteer responses. These are active attempts to get the teacher's attention, in contrast to ordinary volunteering, which implies raising the hand and waiting patiently to be recognized.

The group size difference here might reflect closer teacher supervision of restless students, as well as a difference in teacher tolerance for call outs. Small group lessons tend to be fast paced and drill-like, and teachers usually wanted to prevent call outs and insure that everyone got equal turns.

Consequently, they were especially likely to insist that students raise their hands and be recognized before being allowed to respond in small group situations. On the other hand, they were more tolerant of call outs in the whole class situation. These factors may account for some of the differences between the two contexts.

The data on public response opportunities show some interesting and interrelated findings for students perceived consistently on the calm scale. However, only 10 of 52 significant findings came from the public response situation variables. As we will see, most of the differences between calm and restless students appeared in private work contacts and especially in private non-academic contacts and behavior related contacts.

4. Private Work Contacts. Three of the six significant relationships for private work contact variables involved teacher criticism for poor work. Restless students got more and calm students less criticism during private work contacts initiated by the teachers (42). The same relationship was seen for the combination of teacher criticism given in teacher initiated work contacts plus teacher criticism given in student initiated work contacts (133). Finally, the relative difference in criticism in teacher initiated work contacts was compounded by an absolute difference in the sheer number of such contacts (160). Thus, teachers more often initiated contacts which involved criticism for poor work with restless students, and a greater percentage of the work contacts that these students had with the teachers involved teacher criticism. Opposite results were seen for calm students.

These data reveal contrasting teacher response to differential student behavior. Criticism in teacher initiated work contacts usually occurs because the teacher is frustrated at continual failure or poor work, especially if the teacher believes that the problem is poor motivation or application rather than lack of ability. Thus, these criticism data indicate that the teachers believed that restless students were not applying themselves in working on their seatwork assignments. The teachers' efforts here probably were maladaptive, because criticism usually does not improve motivation, especially not when students already are alienated from teachers and/or school tasks.

The opposite relationship was seen for teacher supervision of seatwork which involved mere observation, without any interaction (45). Teachers were especially likely to merely observe calm students, and unlikely to do this with restless students. This indicates that most calm students probably were progressing well in their seatwork, so that no teacher intervention was required, and that most restless students probably were required intervention (which often involved criticism, as well).

Variables 98 and 99 provide interesting contrasts concerning student initiated work contacts. The percentage of total student initiated contacts which were work related was highest for calm students and lowest for restless students. Conversely, the percentage of student-initiated work contacts which were refused was highest for restless students and lowest for calm students. Thus, when calm students initiated interactions with the teachers, they were likely to want to discuss work, and the teachers were unlikely to refuse them. However, a lower percentage of the private contacts initiated by restless students concerned work, and a greater percentage of these initiatives were refused by the teachers.

This may appear difficult to understand at first, particularly if we assume that the teachers were trying to motivate the restless students. If anything, we might expect them to be especially receptive to student initiated contacts by the restless students, even if they did not involve work. However, these data concern frequencies, and do not take into account appropriateness. The differences in teacher receptiveness to student initiated work contacts may have been due to differences in the timing and appropriateness of student behavior.

Calm students tended to follow the teachers' guidelines concerning when they should and should not initiate contacts (in particular, teachers usually did not want to be interrupted when teaching reading groups). Restless students appeared more generally impulsive and less likely to stay within the rules, so that they were more likely to approach teachers at "bad times." This made teacher refusal more likely, both because the teachers were preoccupied with other concerns when approached at "bad" times, and because they probably were frustrated and irritated by the behavior of the restless students.

5. Private, Non-Work Contacts. The percentage of all contacts with the teachers (except for behavior contacts) which were private, non-work contacts was highest for restless students and lowest for calm students. This indicates that restless students had fewer public response opportunities and that their private contacts with teachers more often involved matters relating to tattling, housekeeping, socializing, or personal concerns, rather than work.

Restless students initiated more total contacts with the teachers (154). They also initiated more of every subtype of private contact including work contacts, although group effects were significant only for approval seeking contacts (156) and personal contacts (158). The difference on approval seeking was somewhat surprising, because other data might suggest that restless students would be uninterested in teacher approval. However, they apparently were interested, so much so that they had unusually high rates of student initiated contacts for approval seeking purposes. Some of the reasons for this will be discussed below.

Restless students also came to the teacher more often to tattle on other students. However, when calm students did come to tattle, the teachers were more likely to approve and less likely to reject them. The reverse was true for restless students, whose tattles were especially likely to be rejected. Thus, calm students tattled less often but more successfully, and restless students tattle more often but less successfully. These tattling data can be taken as another indication of desire for teacher approval by restless students, and the teacher responses here provide some indications of why these students may have been acting this way: the teachers rather obviously disliked them.

Teacher dislike of restless students came through in other measures, too. For example, although there was no group difference in rates of student initiated housekeeping contacts (113), these student initiatives were more likely to be approved and less likely to be refused if they came from calm students. The reverse was true for the restless students. Thus, when calm

students asked for permission to do some household task, they were likely to be given that permission. When restless students made similar requests, they were likely to be refused.

The most direct measure of negative teacher response is the percentage of student initiated personal contacts which involved a negative teacher reaction (123). This percentage was high for restless students and low for calm students. Taken together, these last several measures indicate that restless students came to the teachers to initiated private contacts more often, but also met with negative reactions more often. In contrast, calm students came less often, but they usually met with positive reactions when they did come.

This picture is filled out by data on teacher initiated contacts. The teachers initiated more housekeeping contacts with calm students and fewer with restless students (48). Calm students were more likely to be asked to perform housekeeping tasks or do favors for the teachers. In contrast, the teachers initiated more personal contacts with restless students and fewer with calm students (52). Teacher initiated personal contacts usually involved telling students to straighten up their desks, put things away, or perform some other task that they probably should have done on their own initiative, so that this difference reflects unfavorably on the restless students. It indicates that teachers felt the need to supervise these students more closely and intervene directly with them more often.

Data on the frequency of teacher initiation of contacts show that teachers generally initiated more contacts with restless students and fewer with calm students, except for housekeeping contacts. Group effects were significant

for total teacher initiated contacts (142), teacher initiated work contacts (143), and teacher initiated personal contacts (145). Thus, restless students initiated more contacts with the teachers than calm students, and teachers initiated more contacts with restless students as well. However, the teachers responded much less favorably to the contacts initiated by the restless students, and the pattern of relationships for the teacher initiated contacts suggests closer teacher supervision of the restless students. Taken together with the data on behavioral contacts to be described below, these differences in private contacts suggest that the more frequent interaction with restless students was due to misbehavior and poor work on the part of these students. Teachers apparently responded to this with redoubled attempts to supervise these students more closely and try to get them to change their behavior (apparently unsuccessfully).

6. Behavior Related Contacts. The data for behavior related contacts make it quite clear that restless students were among those who provided the most frequent and difficult disciplinary problems. Restless students had very high rates, and calm students had very low rates, of behavior contacts (60, 61, 147). This was true both of non-disruptive typical misbehaviors (62) and more disruptive misbehaviors (63), including misbehavior which involved outright aggression or defiance directed at the teacher (64). In addition, the same pattern of group differences was seen for the percentage of behavioral contacts in which the student was coded for responding in a sullen fashion (76). Taken together, these data indicate that restless students misbehaved more often and more disruptively and defiantly, and that they responded to teacher intervention more sullenly. In contrast,

calm students misbehaved relatively less often, and when they did so, they were less likely to be disruptive, defiant, or sullen.

These differences in student behavior are reflected in differential teacher reactions. Calm students received more behavioral praise (68), more positive reinforcement (77), and more positive teacher reaction generally (138). Restless students were low on these three measures of positive teacher behavior.

The low rates of misbehavior by calm students also showed up in measures of teacher reactions to misbehavior. Teachers responded to misbehavior by restless students more often through non-verbal intervention (69), and in responding to misbehavior by calm students, they less often resorted to warnings, threats, criticism, or punishment (71, 72, 73, 74). A high proportion of the typical misbehaviors of calm students were responded to with simple management responses by the teachers (79), and correspondingly fewer such misbehaviors led to warnings or criticism (80, 81, 83). Thus, in general, calm students were unlikely and restless students were especially likely to receive negative reactions during their contacts with teachers (137). Finally, restless students were especially likely to be held up before the class as a bad example by the teachers (150), and calm students were not.

These behavioral data provide a very clear picture of both student behavior and teacher reaction to that behavior. Calm students were particularly compliant and obedient, so that teachers often held them up as examples to others by praising their good conduct. They misbehaved seldom, and when they did misbehave, they were unlikely to do something very bad or to provoke a strong teacher response. The opposite pattern was true of the restless

students. These students misbehaved more often and more disruptively and defiantly, they provoked stronger and more negative teacher responses, and they responded sullenly to the teachers' disciplinary actions. In short, the behavioral data indicate that the restless students were major behavior problems for the teachers, and that a pattern of mutual hostility had developed.

Conclusions Concerning Calm and Restless Students

The classroom observation data bear out the adult perception data on calm versus restless students quite clearly. They indicate a large difference between these groups in conformity to classroom rules, with restless students likely to misbehave both more frequently and more intensely. The observational data also provide support for the adjective description data which suggest that calm students were better motivated and harder working than restless students. They also support the differences in such descriptors as quiet, active, aggressive, responsible, sweet, and underachiever.

The classroom observation data also support the teachers' description of restless students as dependent and calm students as not dependent on the teachers (this was one of the few places where the observer data did not agree with the teacher data). However, even though the adjective description data from the teachers indicated that the teachers were aware of the greater dependency of the restless students, and even though the observation data indicate that this dependency existed despite misbehavior and difficult relationships with the teachers (recall that restless students initiated more contacts of every kind, including approval seeking), the teachers did not respond positively to these students.

Apparently, these students were so frustrating to the teachers that they responded negatively to their initiatives, even though they recognized that these students needed or at least wanted more contact. This probably reflects a carry over of frustration and hostility engendered by these students through disruptive and defiant misbehavior and sullenness. It also may reflect student differences in the frequencies with which approaches to the teacher were appropriate and/or within classroom rules.

Apparently, mutual hostility had developed between the teachers and the restless students. Except for praising good answers in non-volunteer situations (and even this has an element of control as well as praise), the pattern of teacher evaluative reactions and emotional reactions is consistently negative in respect to restless students. In contrast, the calm students appeared to be model students types who got rewarded for being such.

Careful

The data for the careful versus careless scale are similar in many ways to those for the calm versus restless scale. The major differences are that there were fewer significant group effects, and, as expected, these were focused more on work habits than on general activity levels.

Teacher rankings and coder ratings on careful correlated .49, indicating good agreement, and the patterns of intercorrelation with the other scales were similar for the teachers and the observers.

Adjective Description Variables

Significant group effects appeared for 15 of 37 possible teacher adjective description variables, and for 10 of 31 possible observer variables.

Where significant findings appeared and data were available for both groups, there was agreement between the teachers and the observers on all except one variable. However, the teachers frequently had statistically significant differences while the observers had similar, but non-significant patterns (see Table 10-3).

Significant group effects for both teachers and observers showed that the careful students were described as generally more intelligent, higher achieving, better workers, and less active. Also, both teachers and observers gave higher percentages of positive statements for the careful students and lower percentages for the careless students.

Group differences which were significant only in the teacher data, but which showed similar group trends in the coder data, were descriptions of the careful students as more mature, quieter, more helpful, better motivated, more responsible, more considerate, and more attentive. There also were two variables on which a significant effect appeared in the observer data but not in the teacher data: observers described the careless students as more aggressive and as more temperamental. All of these group effects placed the careful students in a more positive light than the careless ones, although the greater number and strength of effects in the teacher data suggest greater halo effect there than for the observer descriptions.

In addition to these findings from variables for which data were available for both groups, there were several group effects on variables where analyses could be performed only in the teacher data or only in the observer data. The teachers described careful students as better motivated, more likely to come from good homes, and likely to be trustworthy. They described careless

students as likely to be underachievers. Also, the observers described careful students as better behaved and as having good relations with the teachers. Here again, all of these differences favor the careful students.

The only disagreement occurred for the "other positive" category, which included adjective descriptions that could not be coded more specifically but could be classified as flattering or unflattering in their implications about students. Here, a significant effect in the observer data indicated that careless students had relatively few of these "other positive" descriptions. The teachers did not have significant group differences, and the careless students were in the middle rather than at the bottom in number of "other positive" descriptors. This difference is clear enough to constitute a disagreement, but it is mostly a disagreement in emphasis rather than in general impressions about careful and careless students. Like all of the other adjective description variables, the data from this variable indicate that careful students were perceived positively and careless students were perceived negatively on every variable where a significant group effect appeared.

Checklist Variables

Significant group effects appeared for five of the six checklist variables (see Table 10-2). In most cases, the careless students were notably different from the other two groups. Careless students were high on boisterous and disruptive behavior and low on passivity, indicating that they were active in the classroom and that much of this activity showed up as misbehavior. Careful students were high in self esteem and good peer relationships, and

they also were least likely to be described as clumsy or lethargic. Careless students ranked in the middle on this last variable. There were no significant group effects on the measure of poor peer relations.

Like the adjective description data, the checklist data provide a general picture favoring the careful students over the careless students. They extend this to several variables relating to personality and interpersonal behavior, in addition to the achievement and work habits variables discussed previously.

Classroom Observation Variables

The classroom observation data for careful were similar in pattern to those for calm, but significant relationships were less frequent. Whereas 52 of 156 possible relationships showed significant group effects for calm, only 28 of 156 showed significant effects for careful. This still is considerably more than the number to be expected by chance (about 8), however.

Except for the reduced number of significant effects, the similarities to the findings for calm are striking. Almost all of the variables showing significant effects for careful also showed significant effects for calm, and the majority are in private, non-work contacts and behavioral contacts. Only six of the 28 significant relationships came from public response opportunity variables.

1. Total Response Opportunities. Careless students had a notably low proportion of total contacts with the teacher which occurred in public response opportunities, similar to the proportion for restless students (1). However,

they had more total contacts with the teachers (164). Also, a higher percentage of their work related contacts with the teachers were private (37), and this effect was increased slightly when approval seeking contacts were taken into consideration (38).

2. Response Opportunities in General Class Activities. None of the variables dealing with response opportunities in general class activities showed significant differences. This indicates that the differences recorded above were due mostly to differences in the frequency of private interactions rather than to reduced frequencies of public response opportunities among the care-less students. Careless students were neither more or less likely to be called on in public response opportunity situations in general class activities, and there were no significant differences in this context on such variables as volunteer versus non-volunteer versus called out answers or praise and criticism of answers.

3. Response Opportunities in Small Group Activities. Significant effects appeared here for only two variables, the same ones that were significant for the calm versus restless scale. Careful students had notably high percentages of response opportunities gotten through ordinary volunteering (raising their hands and waiting to be called on) than the other students perceived consistently on this scale (7). Careless students had the highest rates of response opportunities obtained by waving their hands or otherwise seeking teacher attention and recognition (10). Careful students were about average for this variable, while students rated medium on the careful versus

careless scale were low in active hand waving. These data suggest that careless students had some of the same characteristics as restless students did during small groups, being more likely to wave their hands frantically and seek permission to respond in a notably active way than to merely raise their hands and wait patiently for recognition. However, unlike the findings for restless students, none of the response opportunity variables dealing with calling out answers showed significant group effects. Thus, the careless students apparently were somewhat more controlled than the restless students.

4. Private Work Contacts. Only four variables in this cluster showed significant effects. The first was the proportion of teacher initiated contacts which were work related (40). This proportion was low for careful students, indicating that teachers felt less need to check up on them systematically. The other three significant group effects all related to teacher criticism for poor work. Careless students were criticized more often for poor work during teacher initiated work interactions (42). For total work contacts involving teacher criticism (133), the data show high scores for careless students and low scores for careful ones. Finally, a similar pattern appeared for the frequency of teacher criticism during teacher initiated work contacts (160). These data from private work contacts indicate that the teachers felt the need to check the work of careful students less often, and that they were less likely to criticize them for poor work when they did check them. In contrast, they were more likely to check the work of the careless students, and more likely to criticize them for poor (probably careless) work.

5. Private Non-Work Contacts. Significant group effects were more evident here in the teacher data than in the student data. Student measures showed only that the careless students initiated more contacts with the teachers and that careful students initiated fewer (154). A similar pattern appeared for student initiated work contacts (155). Also, the careless students were slightly above average and the careful ones clearly below average in student initiated tattling (125). As far as they go, these data on careless students are similar to the previously reported data on restless students. However, note that none of the measures of teacher favorable versus unfavorable response to these student initiated contacts showed significant group effects. The teachers apparently did not react as strongly to the careless and careful students as they did to the calm and restless ones. In particular, there was no significant effect suggesting that the teachers were more receptive to initiations by careful students.

However, the teacher initiation data did show some differences favoring the careful students. Teachers were more likely to invite or request careful students to perform housekeeping tasks, and less likely to do so with careless ones (48, 144). Also, teachers initiated more contacts with careless students (142), but this was due primarily to differences in teacher initiated work contacts (143) and teacher initiated personal contacts (145). Thus, teachers apparently felt it necessary to seek out the careless students more frequently to check on their work and also to tell them to pick up after themselves or perform similar tasks typically involved in teacher initiated personal contacts.

6. Behavior Related Contacts. Careless students had high rates and careful students had low rates of misbehavior (60, 147). This was true for misbehavior in general and also was true, although less strikingly, for misbehavior involving aggression or defiance directed at the teacher (64). The same also was true for the percentage of behavior related contacts during which the student was coded as reacting sullenly (76). Thus, the behavior data for careful and careless students followed the same general patterns as those seen for calm and restless students, although group effects were fewer and less extreme. Even so, a pattern is observable for the careless students to have both more frequent misbehavior and more sullen and defiant reactions to the teacher. Consequently, it should not be surprising that the behavior variables for teachers showed a preference for the careful students and some antipathy toward the careless students.

Careful students were especially likely to be praised for good behavior (68), and unlikely to be criticized for misbehavior (73) or to have negative reactions from the teacher (74). Also, careless students were especially likely to be held up as bad examples to the class (150).

Like virtually everything else said about careful and careless students so far, these group differences favor the careful students over the careless ones. However, the final group difference provides a remarkable exception: teachers were especially likely to show physical affection towards the careless students (152). This is surprising, given everything else we have seen about these students. Taken together, the data on these students suggest that they are careless and do require considerable supervision of their work and of their general neatness. However, there is less evidence of a widespread pattern of

negative interactions between careless students and the teachers, compared to the patterns seen previously for restless students. Some differences along these lines were observed, but they were fewer in number and weaker in strength than those observed for restless students.

It is impossible to tell from the data presented here, but it seems unlikely that students getting physical affection from teachers would be the same ones coded as sullen and defiant. There probably were subgroups of careless students (two in particular) responsible for these findings. One group probably was not only careless but also generally unmotivated and negativistic toward the teachers, and was responsible for most of the negative teacher behavior directed at careless students as a group. There probably was another subgroup of careless students who were careless in being sloppy and forgetful, but were not hostile, defiant, or otherwise negativistic toward school or the teachers. Perhaps the teachers even were fond of these careless students because of other personal qualities.

Summary for Careful versus Careless

As with calm versus restless students, the comparisons of careful versus careless students suggested broad contrasts. Careful students appeared to be model students well liked by the teachers, and careless students appeared to be not only careless in their work but prone to misbehavior. However, there were fewer significant group effects, and teachers were more physically affectionate toward careless students even though several other measures suggested negative teacher-student relationships here. In general, students perceived consistently as careful versus careless apparently were less

extreme in their contrasts with one another than students perceived as calm versus restless. In any case, they provoked few strong reactions from the teachers, compared to the calm and restless students.

Mature

Teacher rankings and coder ratings for students perceived consistently on the mature scale by the teachers correlated .43. Also, the pattern of intercorrelations for mature with other scales was similar for teachers and observers, except that the correlations were lower for the observers. The findings to be presented for the mature scale also are similar to the findings for the calm and the careful scales. They are less numerous and extreme than the calm scale, but somewhat more numerous and stronger than those for the careful scale. However, the findings for all three scales follow generally similar patterns.

Adjective Description Variables

Significant effects appeared for 15 of the possible 37 teacher variables and for nine of the possible 31 observer variables (see Table 10-4). Where data were available for both groups, they agreed in 12 cases, partially disagreed in one case, and disagreed clearly in one case.

As with the other data, the variables showing agreement across groups usually showed stronger relationships for the teachers than for the observers, even though the group rankings are similar. Students ranked high on the mature scale were perceived as more mature, quieter, more helpful, better motivated, more intelligent, higher achieving, better workers, more active,

less temperamental, and less dependent on the teacher. Both groups also used more "other positive" descriptors for the mature students, and their percentages of total statements which were positive were highest for the mature students and lowest for the immature students.

Variables on which data were available for only one group revealed that teachers saw the mature students as more likely to come from good homes, more likely to be creative, and least likely to have troublesome medical problems. Also, the mature students were described as well behaved by the observers. All of these differences favor the mature students.

A minor disagreement between the teachers and the observers occurred for descriptions relating to student responsibility. The teachers showed a significant effect describing the mature students as the most responsible and the immature students as the least responsible. The observers did not have a significant effect for student responsibility. Inspection of the non-significant group differences showed that, although they did rank the immature students as least responsible, they did not rank the mature students as most responsible. Thus, teachers attribute greater responsibility to mature students and irresponsibility to immature students. This may be part of the generally heavier halo effect in the teacher data, discussed previously.

A more clear disagreement occurred for the "other negative" category. Observers showed a significant group effect here, using these negative descriptors most frequently for students ranked in the middle on the maturity scale and least often for the immature students. Teachers had the exact

opposite pattern. Even more than the disagreement on descriptions of responsibility, this suggests halo effect in the teacher adjective descriptions. They described mature students as even better than they apparently were. The observer descriptions of mature students provide a generally positive picture, but not the unbroken halo that the teacher descriptions suggest. Part of this might reflect differences in adult roles and perspectives. Teachers ranked their students only with reference to one another, but observers apparently used a broader range of students as their reference group in making ratings. This may have caused teachers to make more extreme rankings per class than observers did.

Checklist Variables

Significant group effects appeared for three of the six checklist variables, all favoring the mature students (see Table 10-2). Immature students were described as boisterous and disruptive, mature students were described as having good peer relations, and immature students were described as having low self esteem. There were no significant differences for passivity, poor group relations, or clumsiness or lethargy. The differences that did appear continued to provide a generally positive picture of students ranked as mature compared to those ranked as immature.

Classroom Observation Variables

Significant group effects appeared on 38 of the possible 158 classroom observation variables for the mature scale. These were fewer than the 52 significant relationships observed for the calm scale, but more than the 28

seen for the careful scale. The distribution of significant group effects was similar in many ways. In particular, only 10 of the 38 significant effects were for public response opportunity variables. However, whereas the variables significant for careful versus careless almost always were significant for calm versus restless, the variables significant for mature versus immature involved many different ones that were not significant for either of these other two scales.

1. Total Response Opportunities. The same four variables showed significant effects here as for calm and for careful. Mature students had fewer total contacts with the teachers (164). Of these, a higher percentage were public response opportunities for the mature students (1). Also, a greater percentage of the total work related contacts involving immature students were private (37), and this effect was exaggerated slightly when approval seeking contacts were considered (38). Thus, mature students interacted with teachers less often, and their interactions were balanced closely between private interactions and public response opportunities. Immature students interacted with teachers more often, but most of these extra interactions were private ones, so that they had a low percentage of interactions which were public response opportunities.

2. Response Opportunities in General Class Activities. Two variables showed significant group effects here. First, the response opportunities of the mature students were more likely to come in general class activities than in small groups (2, 3). In a related finding, mature students were

likely, and immature students were unlikely to volunteer (and thus more likely to be called on) to answer questions in general class activities. These questions usually were more complex or difficult than the strictly factual questions that were typical of drills and other fast paced lessons occurring in small groups. Given the absence of other significant findings, the difference in frequency of being called on appears directly related to the frequency of hand raising, and not to any teacher preference for calling on mature students over immature students independent of hand raising, (this must be inferred from the data; however, no information on hand raising was collected).

3. Response Opportunities in Small Group Activities. Four variables showed significant relationships here. The first one is related to one already mentioned: mature students were unlikely to get response opportunities in small groups compared to general class activities, while the reverse was true for immature students (2, 3). This difference apparently was due in part to a greater willingness of mature students to volunteer to answer questions in the general class context. However, difference also was due in part to a tendency for teachers to call on immature students as non-volunteers in the small group context, and a tendency not to do this to mature students (4). Most likely, this was in response to the difference in volunteering frequency by the students postulated above, because the mature students received more response opportunities as volunteers and the immature students received fewer response opportunities as volunteers in small groups (7). Thus, mature students were generally more active in

volunteering to answer questions than the immature students. In the small group context, but not in the general class context, the teachers responded by calling on immature students as non-volunteers as a way to equalize response opportunities.

The final significant group effect in this set is a particularly interesting one: mature students were especially likely to be criticized after calling out answers in small group activities. This finding contrasts with the general positive halo seen in the teacher data relating to mature students. Apparently, the mature students were among those overly eager to respond. In any case, the teachers were more likely to criticize them for calling out incorrect answers, compared to other groups.

Why were teachers apparently tolerant of call outs in the general class context but not in small groups? Our impression is that, particularly in the early grades, pacing can be a problem in whole class activities. Teachers may need to "lean on" students capable of providing good answers that not only will solve the immediate problem but will help keep the discussion moving. This avoids long and embarrassing pauses as everyone waits for a student to respond or as the teacher tries and fails to get the answer from several different students. Under these circumstances, teachers are more likely to tolerate or even desire call outs. In small groups, however, most interactions are fast paced drills, and teachers usually want everyone to respect everyone else's opportunity to respond. We will return to this theme again in discussing certain other student attributes that relate to these variables.

4. Private Work Contacts. Six private work contact variables showed significant group effects, and all six concerned teacher behavior rather than student behavior. Thus, there were no differences between mature and immature students on such variables as positive and negative reactions to teacher initiated work contacts, teacher versus student initiation of work contacts, or percentage of student initiated contacts which dealt with work as opposed to other matters. Nevertheless, some striking differences appeared in teacher behavior.

Three of them dealt with teacher criticism. Teacher initiated work contacts involving criticism of poor work were especially likely for immature students and unlikely for mature students (42, 160). The same trend was seen in the percentage of total work contacts involving teacher criticism for poor work (133). These data suggest that the work of the mature students was generally superior to that of the immature students, and that part of the reason for poor work by the immature students was poor motivation or lack of application.

The other significant group effects in this set reinforced the idea that immature students frustrated the teachers because of their difficulties in learning, but that the teachers tried to work with them nevertheless. The teachers were likely to refuse a student initiated work contact when dealing with an immature student, but unlikely to do so when dealing with a mature student (99). This could reflect differential attitudes toward these two types of students. The idea that teacher attitudes might have been involved is supported by the finding that student initiated work contacts were likely to be accompanied by teacher impatience if initiated by immature students,

but not if initiated by mature students (104). It is possible that these teacher reactions resulted from the inconvenience caused by ill-timed or otherwise inappropriate approaches by immature students, although it seems likely that the teachers disliked these students.

The attempts of the teachers to work with immature students despite their frustrations with them is seen in the fact that they were more likely to praise good work by such students, just as they were more likely to criticize poor work (159). Furthermore, they were less likely to praise good work by mature students, just as they were less likely to criticize poor work. It is not uncommon to find that teachers show higher rates of both praise and criticism towards certain students. Typically, these are students that the teachers are trying to motivate. Students that they perceive as already doing well and not in need of special attention or reinforcement usually are dealt with on a more impersonal basis, but students seen as needing special attention and reinforcement are treated accordingly. These data on mature and immature students suggest that the mature students were perceived as doing well and not in need of anything more than simple feedback, whereas immature students were perceived as doing poorly and in need of criticism for unacceptably poor work and praise when the quality of their work was better.

The differential teacher behavior here makes sense on another count, too: differences in student maturity. As noted earlier, students move from an adult orientation towards a peer orientation, and they gradually develop disinterest in and eventually resistance to teachers and other authority figures as they progress through the early elementary grades. To the extent

that teacher perceptions of student maturity are accurate (and the bulk of the data suggests that they are), it follows that the less mature students would be less far along in this progression and thus more open to manipulation through praise and criticism from teachers than more mature students would be. It also follows that they would be more likely to want praise from the teacher, and perhaps also more likely to be motivated by criticism. Thus, the higher rates of praise and criticism directed at immature students make sense, not only on the basis of their apparently poor work, but also on the basis of their developmental status.

5. Private Non-Work Contacts. Immature students had higher proportions and mature students had lower proportions of contacts with the teacher that were classified as private, non-work contacts (39). Part of this difference resulted because immature students tattled more frequently (125), but most of the difference was due to differences in teacher initiated contacts. The teachers initiated more private contacts with immature students than with mature students (142), and significant differences in the same direction were also seen for sub-categories of teacher initiated work contacts (143), teacher initiated personal contacts (145), and teacher initiated social contacts (146). These differences suggest that the teachers felt the need to continually supervise the immature students, although the difference on purely social contacts also suggests that the teachers liked the immature students and/or were working on their personal relationships with them as part of their attempt to change their behavior.

Three of the remaining variables deal with housekeeping contacts. The percentage of teacher initiated housekeeping contacts was higher for the mature students and lower for the immature students. Thus, even though the teachers generally initiated contacts with immature students more often, they tended to ask the mature students when they wanted some housekeeping task or favor done. This may reflect real differences in student capabilities for carrying out tasks successfully, and/or the probability that mature students would be available more often because they complete their work assignments more quickly.

Related data on approving versus refusing student initiated housekeeping contacts fit with this differences in teacher initiation. They also suggest that immature students might have sensed this differential teacher behavior to some degree. Mature students were likely, and immature students unlikely, to have their student initiated housekeeping requests approved (114, 115). Thus, the teachers not only acted differentially in initiating housekeeping contacts with the students; they responded differentially when the students came to them with requests or offers to perform housekeeping duties. Despite frequent interactions of other kinds with the immature students, and despite certain other indications that the teachers liked these students and were attempting to build relationships with them, they were reluctant to allow them to perform housekeeping tasks. Presumably, this was because of the student attributes that led them to rank these students as immature in the first place.

The differences discussed previously for teacher praise and criticism of work and for teacher initiation of social contacts are elaborated by a finding relating to students reaction to teacher initiated social contacts.

The mature students were likely to react negatively to these teacher initiations, but the immature students were not (59). This supports the suggestion made earlier that the more mature students, relative to the less mature ones, are less oriented towards teachers (versus peers) and less positively responsive to teacher attention and praise. In fact, they sometimes are actively negatively responsive, in effect conditioning the teachers to stay away from them.

These data on mature and immature students illustrate some of the developmental changes that occur in children and in the dynamics of teacher-student interactions as students progress through the early elementary grades. Part of the reason that teacher-student interaction becomes less personalized and more focused on teaching and learning is that students become socialized to the role of pupil and able to handle themselves independently. Also, however, they change from positive to mildly negative views of teachers.

6. Behavior Related Contacts. The behavior related contacts for the mature and immature students reflect the mixed pattern seen so far. This contrasts with the almost completely negative pattern seen for restless students and the largely negative pattern seen for careless students. Immature students did have more behavioral contacts, and mature students had fewer (60, 61, 147). Furthermore, the misbehavior that did occur by mature students was likely to be non-disruptive (62, 63). Thus, compared to immature students, mature students misbehaved less often and less severely. It should be noted, however, that the group effects here were due mostly to the very good behavior of mature students, and not to high rates of misbehavior by immature

students. Immature students did misbehave more often and more intensively than average, but not nearly so much as restless students.

A similar pattern was noticeable in several measures of negative teacher reactions to student misbehavior. As with restless and careless students, the teachers reacted more negatively to immature students, but the differences were less extreme. Teacher behavior toward mature students was more different from the norm than teacher behavior toward immature students. In particular, teachers were unlikely to respond to misbehavior by mature students with criticism (73, 81) or with generally negative reactions (74, 137). Possibly because of this, the mature students were especially unlikely to respond in a sullen manner to disciplinary action by the teachers (76). In addition, teachers were especially likely to praise mature students for good behavior (68).

The last significant group effect here is the same interesting one that showed up for the careful versus careless scale: the teachers displayed more physical affection toward the immature students than the mature students (152). Taken together with what has been said previously about praise and criticism, initiation of social contacts, and student response to initiation of social contacts, these data indicate that immature students were more positively oriented towards the teachers. Perhaps partly because of this (although teacher desires to change student behavior may have been involved as well), the teachers were positively responsive towards these students despite the problems caused by their general immaturity. In fact, teachers interested in highly personalized contacts with students might have valued these immature

students for their personal and social characteristics and responsiveness to teacher overtures, even though they recognized that these students were immature compared to most of their classmates.

Data like these have convinced us that measures of behavior such as teacher praise and criticism are more complex and ambiguous than they may seem to be at first. Usually they are treated as spontaneous reactions to especially good or bad student performance or conduct, and/or as behavior modification techniques used to deliberately try to shape behavior. Undoubtedly, much teacher praise and criticism fits either or both of these descriptions. However, these and other data from our research suggest that some teacher praise and criticism has relatively little to do with the quality of the student performance or conduct being praised or criticized, and that it does not appear to involve deliberate attempts to manipulate behavior. Instead, it appears to reflect teacher attitudes towards students and teacher desires for personalized contacts with students, particularly students who respond favorably. Furthermore, these teacher evaluations do not always have the implications about or effects upon students that often are attributed to them.

Much praise is given to students apparently because the teacher believes that the student needs praise for self esteem purposes, rather than because the student has done something outstanding. Also, sometimes praise is given because the student appears to respond to it, rather than because it is particularly deserved, indicating that the student is relatively immature. Similarly, criticism does not necessarily imply rejection, especially not criticism for poor work (as opposed to criticism for misbehavior). Certain kinds of

criticism can communicate positive expectations and the general message that the teacher cares about the students and wants to see them work up to capacity ("You can do much better than that -- do it over and this time let's see it without any mistakes.").

Summary for Mature

The teachers had generally positive perceptions of students ranked as mature, and generally negative ones for students ranked as immature. Observers' self reports generally supported these teacher opinions, although the observer data indicated that the differences were neither so extreme nor so generalized as the teacher data suggested.

The observational data also provided a somewhat mixed picture. Mature students generally were favored over immature students, and often in the same ways noted previously for calm versus restless students and careful versus careless students. However, differences usually were less extreme. Also, in contrast to the pattern of negative behavior toward restless and careless students, the differences for mature versus immature usually involved notably positive interactions with mature students rather than notably negative interactions with immature students. In fact, the data for immature students suggested that the teachers were fond of them, despite the difficulties that they presented.

The teachers praised them more as well as criticized them more, they gave them more physical affection, and initiated more purely social interactions with them. In contrast, their interactions with mature students were more

businesslike, being confined to matters relating to work and to necessary housekeeping duties. In contrast to their behavior towards immature students, the teachers were not especially affectionate towards mature students, and they did not initiate more social interactions with them (most probably because the mature students responded negatively when they did).

Conclusions

All three of the scales reviewed in this chapter showed good agreement between the teachers and observers, as assessed by direct correlations on the scales, patterns of intercorrelation of the scales with the other 12 scales, and similarities in the adjective description data. With only a handful of exceptions, all group differences for all three scales favored the students ranked in the "socially desirable" direction.

Despite halo effects, the checklist data and classroom observation data provide support for the validity of the teacher perceptions of calm versus restless, careful versus careless, and mature versus immature. Differences were most numerous and extreme for calm versus restless, and most of the differences were caused by the students perceived as restless. These students not only were restless in the sense of being physically active and finding it difficult to remain quiet and passive; they also misbehaved very frequently in ways which defied and threatened the teachers.

Unsurprisingly, the general pattern of interaction data suggests that teacher attention was focused on matters relating to misbehavior with these restless students, and that neither the teachers nor these students like one another very much. One difference favoring the restless students on a praise

measure suggested that the teachers were trying to change these students, but the overall pattern suggests that the teachers found them so frustrating that they were unable to sustain positive approaches for very long. Consequently, they responded to most of their misbehavior with negative reactions of their own.

The data for careful and careless students fit halo effect expectations almost completely. Also, whereas the data for the calm versus restless scale were affected most clearly by the restless students, and the data for the mature versus immature scale were affected most clearly by the mature students, the data for the careful versus careless scale were balanced. They were what one might expect when comparing students who were notably careful in their work habits with those who were notably careless. The careless students provided the teachers with some problems, but most of them appeared to be merely careless rather than more broadly rebellious or negativistic. Consequently, teacher attempts to remediate these problems were more visible and were more focused on work habits than were teacher interactions with restless students.

The data for mature versus immature students were the most mixed and least supportive of general halo effects. Most effects were due to ideal behavior patterns shown by the mature students, who seemed to be model students in most ways. Even this was a mixed blessing to some teachers, however, because, although the mature students were more independent and responsible, they also were less interested in the teachers. Perhaps partially because of this, the teachers were notably more positive towards the immature students than towards the careless students and particularly

the restless students. The data suggest that many immature students had close personal relationships with the teachers and responded very favorably to overtures from them. Relatively few immature students had strong negative reactions to the teachers.

Of the six extreme groups discussed in this chapter, the immature students were most notable, not only for their immaturity, but also for being the group toward which the teachers directed the most positive affect, both verbally and physically. Apparently, the immature students were rewarding teacher needs for close personal relationships in ways that other students were not, and this made a difference in teacher patience for and tolerance of the problems that these immature students encountered in coping with classroom demands.

Table 10-1. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Calm Scale.

	Teachers			Observers			
	Low	Middle Groups	High	Low	Middle Groups	High	
1. Sociable	1	2	3	1	2	3	**
2. Mature	-	-	-	3	2	1	***
3. Happy	2	1	3	1	3	2	
4. Quiet	3	2	1	3	2	1	***
5. Helpful	3	2	1	3	2	1	*
6. Well-behaved	3	2	1	3	2	1	***
8. Motivated	3	2	1	-	-	-	
9. Intelligent	3	2	1	3	2	1	*
10. Achieving	3	2	1	3	2	1	***
11. Good Worker	3	2	1	3	2	1	**
12. Popular	3	2	1	3	1	2	**
13. Aggressive	1	2	3	1	2	3	*
14. Responsible	3	2	1	3	1	2	
15. Active	1	2	3	1	2	3	***
18. Temperamental	1	2	3	1	2	3	*
23. Other Positive	3	2	1	3	2	1	*
27. Dependent	1	2	3	2	3	1	
32. Sweet	3	2	1		NA		
33. Underachiever	1	2	3		NA		
35. Untrustworthy	1	2	3		NA		
37. Good teacher relations		NA		3	2	1	**
40. 1/2 Positive	3	2	1	3	2	1	***

*** $p \leq .001$

** $p \leq .01$

* $p \leq .05$

Table 10-2. Rank-Ordering of Group Means on Behavior Checklist for
Students Perceived Consistently on the Calm, Careful, and
Mature Scales.

Variable Name	Calm				Careful				Mature			
	Low	Med	High		Low	Med	High		Low	Med	High	
1. Boisterous, disruptive	1	2	3	***	<u>1</u>	2	3	***	1	2	3	***
2. Passive, unemotional	3	2	1	***	3	<u>1</u>	<u>2</u>	*		NS		
3. Good peer relations	3	2	<u>1</u>	***	3	2	<u>1</u>	***	3	2	1	***
4. Poor peer relations		NS				NS				NS		
5. Low self esteem	2	1	3	*	<u>1</u>	<u>2</u>	3	***	<u>1</u>	2	3	***
6. Clumsy, lethargic		NS			2	<u>1</u>	3	**		NS		

*** $p \leq .001$

** $p \leq .01$

* $p \leq .05$

Table 10-3 Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Careful Scale

	Teachers				Observers			
	Low	Middle Groups	High		Low	Middle Groups	High	
2. Mature	3	2	<u>1</u> ***		3	2	1	
4. Quiet	3	<u>2</u>	<u>1</u> *		3	1	2	
5. Helpful	3	2	<u>1</u> **		3	2	1	
6. Well-behaved	-	-	-		3	2	<u>1</u> *	
8. Motivated	3	2	<u>1</u> ***		-	-	-	
9. Intelligent	3	2	1 ***		3	2	1 ***	
10. Achieving	3	2	<u>1</u> ***		3	<u>2</u>	<u>1</u> ***	
11. Good Worker	3	2	1 ***		3	2	1 ***	
13. Aggressive	1	2	3		<u>1</u>	2	3 *	
14. Responsible	3	2	<u>1</u> **		3	2	1	
15. Active	<u>1</u>	2	3 **		<u>1</u>	2	3 **	
16. Considerate	3	<u>2</u>	<u>1</u> *		3	2	1	
17. Inattentive	<u>1</u>	<u>2</u>	3 *		1	2	3	
18. Temperamental	1	2	3		1	2	3 *	
23. Other Positive	2	3	1		3	<u>2</u>	<u>1</u> *	
28. Good Home	3	2	1 *			NA		
33. Underachiever	<u>1</u>	2	3 *			NA		
35. Untrustworthy	1	2	3 *			NA		
37. Good Teacher Relations		NA			3	2	<u>1</u> **	
40. % Positive	3	2	1 ***		3	2	1 ***	

*** $p \leq .001$

** $p \leq .01$

* $p \leq .05$

Table 10-4. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Mature Scale.

	Teachers				Observers			
	Low	Middle Groups	High		Low	Middle Groups	High	
2. Mature	3	2	<u>1</u> ***		3	2	<u>1</u> ***	
4. Quiet	3	2	1 **		3	2	1	
5. Helpful	3	<u>2</u>	<u>1</u> ***		3	2	1	
6. Well-behaved	-	-	-		3	2	<u>1</u> **	
8. Motivated	3	2	1 ***		3	2	1	
9. Intelligent	3	<u>2</u>	<u>1</u> ***		3	<u>2</u>	<u>1</u> ***	
10. Achieving	3	2	1 ***		3	<u>2</u>	<u>1</u> ***	
11. Good Worker	3	<u>2</u>	<u>1</u> ***		3	2	1 *	
14. Responsible	3	2	1 **		3	1	2	
15. Active	1	2	3 **		<u>1</u>	<u>2</u>	3 *	
18. Temperamental	<u>1</u>	2	3 *		1	2	3	
22. Other Negative	2	1	3		3	<u>1</u>	2 *	
23. Other Positive	3	2	1		3	2	<u>1</u> **	
27. Dependent	<u>1</u>	<u>2</u>	3 *		1	2	3	
28. Good Home	3	2	1 ***			NA		
29. Creative	3	<u>2</u>	<u>1</u> *			NA		
30. Medical Problems	1	2	3 **			NA		
40. % Positive	3	2	1 ***		3	2	<u>1</u> ***	

*** $p \leq .001$

** $p \leq .01$

* $p \leq .05$

In the previous chapter, we discussed three scales strongly influenced by halo effects. In the present chapter, we will discuss students perceived consistently as low vs. high achieving and low vs. high persistent. Along with cooperation, these scales appear to be those most central in determining general teacher perceptions of students and attitudes towards them. The creativity scale is grouped along with these two scales in the present chapter, because, together, these three scales are the ones most directly concerned with students' ability to work on assignments and with the outcomes of this work.

The careful vs. careless scale was expected to group with these scales as well, but the pattern of intercorrelations for that scale suggested that it was related more closely to calm vs. restless. Thus, it acted more as a measure of general impressions of the student, much like the calm and mature scales, than as a measure of achievement or behaviors related to achievement.

The influence of halo effect can be seen most easily in the reduced number of significant group effects for the scales in this chapter as opposed to those in the previous chapter. Furthermore, the significant effects that did appear for achieving, creative, and persistent were related more clearly to these specific student attributes. In contrast, calm, careful, and mature showed many significant effects that appear to be due to halo effect rather than to actual student differences on these attributes.

Another difference, also related to halo effect, is that there was less agreement in the perceptions of the teachers compared to those of the observers for the variables discussed in this chapter. Part of the reason for this is that teachers had more (and better) information to draw upon in ranking students on achieving, creative, and persistent than the observers did. However, both groups apparently based their ratings or rankings mostly on observed behaviors

specific to the student attributes in question, particularly for achieving and persistent. The data for creativity, especially the observer ratings, do indicate halo effect influences, particularly from perceptions of student achievement.

Achieving

Teacher rankings correlated .54 with observer ratings of achievement, indicating generally good agreement. The pattern of correlations with the other 12 scales also was similar for both groups. For both teachers and observers, ratings on achieving were correlated especially highly with ratings on careful and persistent, and correlated negatively with concern ratings. This indicates that the achievement ratings reflected impressions of student application to work assignments, and suggests that low achievement was the primary reason for high teacher concern. In addition to these especially high correlations, both groups showed strong correlations between achievement ratings and the ratings on mature, creative and attachment. In general, the pattern of intercorrelations for the achieving scale showed favorable perceptions of high achievers and unfavorable perceptions of low achievers in every respect.

Adjective Description Variables

Significant group effects appeared on 12 of a possible 37 teacher variables and eight of a possible 31 observer variables (see Table 11-1). Of these, 11 were on variables analyzed for both groups. These showed six agreements, three mild disagreements, and two clear disagreements.

The agreements indicated that both teachers and observers saw achieving students as mature, motivated, intelligent, and achieving. Relationships were especially strong in both groups for intelligent and achieving. In addition, both

groups had more "other positive" descriptions for the high achievers and fewer for the low achievers, and the same pattern was seen for the total percentage of positive statements. In a sense, these data on achievement showing agreement between teachers and observers suggest halo effect, because high achievers were always seen positively and low achievers negatively. However, these variables all are related directly to achievement (with the possible exception of mature), so that the findings were expected and are not considered to be unsubstantiated halo effects.

Mild disagreements appeared for good worker, responsible, and inattentive. The observers saw high achievers as good workers and low achievers as poor or inefficient workers. In contrast, the teachers did not have a significant group effect here, and, although high achievers were ranked highest, low achievers were not ranked lowest. Apparently, observer ratings of achievement were influenced more by what they perceived to be good vs. poor work habits than teacher rankings of achievement were. In contrast, teacher rankings of achievement seemed to be influenced somewhat more by impressions of student intelligence and maturity. These findings suggest that the teacher rankings for achievement might reflect absolute achievement, compared to the observer ratings, which might reflect application, or achievement relative to ability.

The teachers showed a significant group effect for responsible, with the high achievers seen as most responsible and low achievers as least responsible. This probably is related to a similar effect for perceptions of maturity. The observers did not see a significant difference here. Also, although they agreed in seeing the lowest achievers as least responsible, they did not rate high achievers as most responsible. The observer data seem more appropriate here, since there is no reason to expect that high achievers would necessarily be more

responsible than low achievers, especially if achievement is considered with reference to student application rather than in absolute terms.

The teachers also showed a significant effect for inattentive, seeing low achievers as most inattentive and high achievers as least inattentive. The observers had no significant group effect here. They did rate low achievers highest on inattentive, but the high achievers were rated in the middle. In this case, the teacher perceptions seemed to make more sense, because attentiveness should relate to achievement. It is possible that both groups were correct given the information available to them, but that the teachers knew things that the observers didn't know. Previous research (Taylor, 1968; Brophy and Evertson, 1976) has shown that observer ratings of students' apparent attention to classroom activities can be misleading, because students have learned to give the appearance of being attentive even when they are not. It is possible that this factor misled the observers but not the teachers, who had had enough experience with the students to be able to judge attentiveness on the basis of more dependable criteria than those available to the observers.

Significant group effects on data available only for teachers showed that the teachers saw high achievers as more likely to come from good homes, as more creative, as absent less often, and as more trustworthy. With the possible exception of trustworthiness, these perceptions all make sense for students consistently perceived as high in achievement. In addition, the observer data revealed that students perceived as high achievers also were seen as having good relationships with the teachers, and that the reverse was true for low achievers. This too was unsurprising.

The two primary disagreements between teachers and observers concerned perceptions of athletic ability and use of "other negative" descriptors. The

teachers showed a significant effect for athletic, seeing the achievers as more athletic and the low achievers as least athletic. Observers had no group effect for this variable, although they saw the low achievers as most athletic and had the high achievers ranked in the middle. This disagreement is difficult to evaluate. For one thing, studies of correlates of achievement among elementary school children usually reveal these children to be larger, more mature, and more athletic than average, so that the teacher perceptions may well have been correct. On the other hand, there is no logical relationship between school achievement and athletic ability, so that halo effect may have been involved here, too. The observer ratings cannot be used to judge this in the case of ratings on athletic, because the observers typically did not have an opportunity to observe the athletic participation and abilities of the students. They had to infer them from what they saw in the classroom, and this was not a very reliable source of information. In fact, the low achievers may have been rated highest simply because they were most active in the classroom.

There was also a flat disagreement for the number of "other negative" adjectives used to describe students seen consistently on achievement. The observers had a significant effect, in which high and middle achievers were described with these "other negative" descriptors more often than low achievers. The teachers had no significant effect, but high achievers were described with "other negative" descriptors least often, and high achievers, most often. This finding may argue for some halo effect in the teacher data. Taken together with all the other teacher data, there is an almost complete pattern of favorable perceptions of high achievers and unfavorable perceptions of low achievers, including several on variables having no logical connection with achievement. This is less true of the observers, and this finding in particular may indicate that the observers

perceived some negative qualities in the high achievers despite their overall positive image. However, the fact that this variable is an aggregate of several otherwise unclassifiable "negative" descriptors could also be responsible for the inconsistencies between the teacher and observer data. In fact, this variable (in contrast to almost all the others) showed different patterns for teachers and observers for several of the work habits and ability scales. It seems that the combining of different measures decreased the validity of this variable to the point of making meaningful interpretations difficult.

In summary, the adjective description data for achieving show that observers and especially teachers saw high achievers generally more positively than they saw low achievers, but most differences were on variables that would be expected to show differences among students who differed consistently in achievement. The teachers did have some evidence of halo effects extending to other variables with no logical relationship to achievement, and the observers did have some negative perceptions of high achievers that did not show up in the teacher perceptions. Also, the overall patterns for the two groups suggest that they were stressing somewhat different aspects of achievement in making their rankings or ratings. The teacher rankings show strong relationships to maturity, intelligence, and home background, indicating that their achievement rankings were determined primarily by student ability and by scores on objective intelligence and achievement tests. In contrast, the observer ratings of achievement, although also related strongly to perceptions of intelligence, suggested that the observers were taking student ability into account but adjusting it for perceived work habits and general application to studies. Thus, the observer ratings of achievement were influenced by perceived student effort and application more than the teacher rankings were.

Checklist Variables

Significant differences for achieving appeared on three of the six checklist variables (see Table 11-2). High achievers were seen as having good peer relations, as unlikely to be boisterous or disruptive, and as unlikely to have low self esteem. Low achievers had the opposite patterns. There were no significant differences for passivity, poor peer relations, or clumsy and lethargic.

The data for self esteem indicate once again that this personality variable is correlated with school achievement. The findings for boisterous and disruptive and for good peer relations were not surprising, despite the lack of direct logical relationships between these variables and achievement. Many studies have shown that these variables are related to achievement in elementary school. The absence of a significant difference on clumsy and lethargic fits with the absence of a significant group effect on coder perceptions of athletic ability. If the teachers had filled out the checklist, there might have been a significant difference here paralleling the one seen for athletic ability.

Contrary to the "egg head" stereotype, studies of high achieving students typically show them to be healthier, more athletic, and more popular than their average or low achieving peers. These relationships show up in the perceptions of the teachers and observers, except for observers' perceptions of athletic ability and clumsiness, rather than any genuine disagreement with the teachers or with previous research.

Classroom Observation Data

Significant group effects for achieving appeared on 24 of a possible 161 classroom observation variables. Although well above the eight significant effects expected by chance, this number was considerably below the 52 significant effects

which appeared for calm. As we will see, significant effects were confined mostly to variables directly related to classroom achievement.

1. Total Response Opportunities. Four significant effects appeared in this section, the same ones that appeared for the three scales in the previous chapter. Low achieving students had more contacts and high achieving students fewer contacts with the teachers (164), and more of these contacts were private contacts. Specifically, the low achievers had more and the high achievers fewer private work contacts (37), and this effect was exaggerated a little when approval seeking contacts were included (38). In contrast, the low achievers had a low percentage of public response opportunities (1). These data repeat a general pattern: the students who are doing well in the classroom interact less frequently with the teachers even though they respond more frequently in public situations. Differences occur because the teachers have more private interactions with the students perceived less favorably, partly to monitor them and provide help with their work, and partly to handle the management problems they present.

2. Response Opportunities in General Class Activities. High achievers had high rates and low achievers had low rates of response opportunities in general class situations (3). Furthermore, the high achievers were especially likely and the low achievers unlikely to get these response opportunities through volunteering (21). In contrast, the low achievers were likely and the high achievers unlikely to be called upon as non-volunteers (18). Unsurprisingly, then, the high achievers apparently volunteered to answer questions and were called upon more often by the teachers, and the low achievers apparently volunteered less often so that they had to be called on as non-volunteers in order to make sure that they were included in the activity.

Even so, the high achievers got more response opportunities and the low achievers fewer response opportunities in general class activities (141).

3. Response Opportunities in Small Group Activities. Only one significant group effect appeared here: high achievers had proportionally fewer response opportunities in small groups (2). This is because they were more active in the general class context, so that the proportion of their total response opportunities which occurred in small groups was reduced correspondingly.

4. Private Work Contacts. There were no differences between achievement groups in teacher or student initiation of private work contacts. However, there were differences in teacher responses to student initiated work contacts. First, teachers were more likely to refuse to stop what they were doing and deal with student concerns when low achievers initiated work contacts, but less likely to refuse high achievers (99). This probably means that high achievers probably approached the teachers more appropriately and at more convenient times.

The second difference indicated that the teachers were more likely to make brief feedback responses in work interactions initiated by high achievers, and less likely to do so in work interactions initiated by low achievers (100). Part of this is due to the previously mentioned difference in refusal rates, although part of it also is due to a tendency (not significant, however) for teachers to give long feedback to low achievers in student initiated work contacts (101).

Taken together, these data indicate that high achievers probably approached the teachers more appropriately when they needed help, and that the help they needed could be provided with brief feedback in most cases. In contrast, when teachers did pause to provide feedback to low achievers, they were more likely to have to

spend more time with them. These findings all make sense for students differing consistently in achievement.

5. Private, Non-work Contacts. In contrast to many of the findings in this section for the variables discussed in the previous chapter, all significant group effects for the achieving scale were due to teacher behavior. The low and high achieving students did not differ from each other in rates of initiation of private contacts with the teacher or in types of contacts initiated. However, there were several group effects in the teacher data. First, the teachers initiated private contacts (not including behavioral contacts) most often with the low achieving students, next most often with the high achieving students, and least often with the middle achievers (39). This is one of the few times that a significant group effect appeared in which the students in the high and low categories on a scale were not also in the high and low categories on the variable in question. It also is one of the few times where this kind of finding was expected.

Previous research (Silberman, 1969; Brophy and Good, 1974) had indicated that teachers interact more often with students who stand out in the classroom, and less often with those who do not. The research on teacher concern has indicated that teachers interact especially often with students they are concerned about, and concern usually is highest for students having difficulty with their studies. Thus, it was not surprising to find that the low achievers had the highest rates of private interactions with the teachers. Among the other students, the finding that the high achievers had more such interactions than the middle achievers was expected on the grounds that the high achievers would be more noticeable to the teachers than the middle achievers, and perhaps would be called upon more often to perform errands or housekeeping tasks, partly because they were more likely to do so successfully, and partly because they were more likely to have free time

because they had finished their assignments.

The remaining significant group effects in this section correspond with these expectations. Teachers initiated more contacts with low achieving students compared to the other two achievement groups (142). This pattern appeared not only for the total teacher initiated contacts, but also for teacher initiated work contacts (143), teacher initiated personal contacts (145), and teacher initiated social contacts (146). These data on the sheer frequency of contacts indicate two general findings. First, the differences in total contacts were due to differences in teacher initiation rather than student initiation. Second, higher rates of teacher initiation of contacts with low achievers were not confined to work contacts; they appeared also for personal contacts and social contacts. The difference in personal contacts reflects unfavorably upon the low achievers, because it indicates that the teachers had to tell them to tend to their personal affairs more frequently than they had to tell this to other students. However, the difference in social contacts indicates that the teachers had good personal relationships with the low achievers, and in fact initiated contacts more often with them for purely social purposes as well as initiating interactions more often for purposes of monitoring their work progress.

Two additional significant group effects appeared on proportion variables. First, although the difference in sheer frequency of teacher initiated housekeeping contacts (which favored the high achievers) was not significant, a higher proportion of the teacher initiated contacts that these students did have were housekeeping contacts (48). This indicates that, although teachers generally initiated contacts with low achievers more often than they did with high achievers, they turned to the high achievers when they wanted something done. This is not surprising, given the considerations mentioned previously as well as the teacher perceptions of high achievers as being more mature and more responsible than low achievers.

Finally, even though teachers initiated social contacts with low achievers more often, a higher than average percentage of these social contacts were coded as routine (57). This means that teacher affect during these interactions was likely to be neutral, neither clearly positive nor clearly negative. This proportion difference probably was produced by the frequency difference. Teachers initiated social contacts with the low achievers especially often, so it is likely that the percentage which involved strong affect would be lower than it would for students with whom initiation of social interaction was less routine.

Note that there is no indication that the low achievers were avoiding the teachers, responding to them sullenly, or "turning them off." Quite the contrary. The teachers initiated more interactions with low achievers, except when they needed someone to run an errand or perform some housekeeping chore, when they were more likely to turn to a high achiever. In any case, the data presented so far indicate that the low achievers enjoyed good relationships with the teachers, despite their poor progress in school.

6. Behavior Related Contacts. At first glance, the impressions just discussed seem to be contradicted by the significant group effects for behavior related contacts. However, inspection of the group means reveals that the differences usually are due to unusually low frequencies of behavioral contacts with high achievers rather than to unusually high frequencies of such contacts with low achievers. The teachers did have more behavior related contacts with low achievers and fewer with high achievers (60, 147). However, there was no tendency for the low achievers to be aggressive toward peers or to be defiant toward the teacher. The only significant difference among the subtypes of behavioral contacts occurred for miscellaneous non-interactive behaviors such as cheating on tests (67). Un-

surprisingly, this was more frequent for low achievers.

Data on teacher and student responses during behavior contacts showed two significant effects. Low achievers were more likely, and high achievers were particularly less likely, to have behavioral contacts involving teacher negative responses such as warnings, threats, or criticism (74). Also, the high achievers were especially unlikely to respond to the teachers with sullenness (76). The opposite was not true of low achievers, however. Their mean on this variable was in the middle and close to the average for students in general. Thus, the significant group effect on this variable was due to the low frequency of sullenness among high achievers, and not due to any tendency toward sullenness among low achievers.

The behavior data so far indicate that the low achievers often presented behavioral problems to the teachers, but that these problems were relatively minor and impersonal. There was little indication that they were frequent or severe enough to interfere with the generally positive teacher-student relationship pattern noted previously. Also, the final significant group effect indicated that teachers displayed physical affection toward low achievers more often than they did toward middle or high achievers (152). Thus, the teachers not only interacted with low achievers more often, but they treated them more warmly.

Summary for Achieving

The data for achieving provide few surprises. In particular, the adjective description and checklist data mostly replicate previous findings and indicate perceptual differences that would be expected for students who clearly differed in achievement level. Teacher perceptions of achievement appear to reflect objective achievement for the most part, based primarily on student intelligence and maturity.

In contrast, observer ratings appear to reflect a combination of objective achievement with effort and persistence. Correspondingly less emphasis was given to attributes like maturity and responsibility.

The behavioral data bear out what would be expected on the basis of previous findings on concern students: teachers interact more frequently with low achievers. However, the behavior data are interesting and somewhat surprising, especially when contrasted with the data for calm vs. restless and careful vs. careless. They indicate that the teachers had not only frequent but generally positive interactions with low achievers. Furthermore, there were many indications that the achievement rankings were specific to student achievement, and not related to measures of student misbehavior, especially the kinds of severe misbehavior that threaten or defy teachers. Apparently, low achievers were no more likely to show these extreme patterns of misbehavior than other students.

This may have occurred simply because there is no logical connection between achievement and relationships with the teacher or willingness to conform to school rules. However, the evidence of teacher interest in and concern about low achievers raises the possibility that such concern may have led the teachers to establish positive relationships with these students deliberately. It is possible that a side effect of concern about achievement is a reduction in the frequency and intensity of misbehavior among students with whom teachers interact both frequently and warmly. In any case, despite some indications of halo effect, the teacher perception data indicated that most variables on which high achievers were perceived more favorably than low achievers were reasonably related to achievement, and the classroom observation data indicated that the low achievers enjoyed a good quantity and quality of interactions with their teachers.

These latter findings are somewhat surprising, particularly in view of the emphasis on achievement expectations as the primary basis for discriminatory teacher

behavior which would produce self-fulfilling prophecy effects. The data we have reviewed so far suggest that such teacher behavior is much more closely related to student misbehavior and students' emotional responses to their teachers than it is to student achievement as such.

Creative

The correlation between teacher rankings and observer ratings for creative was only .28, indicating considerably less agreement on this student attribute than on most others. This is not surprising, given the difficulty of defining creativity and the observers' limited opportunity to gather information about the students. In fact, there is some reason to believe that observer ratings of creativity were influenced mostly by general impressions of student intelligence and achievement.

The pattern of intercorrelations with other scales was similar for the teachers and observers, except that the teachers had higher correlations. None of the correlations were extremely high, although those with the achieving scale were clearly higher than those with any other scale. All correlations involving the creative scale for both teachers and observers were in the direction which favored the creative students, suggesting that they were more mature, more intelligent, etc., than the students ranked low in creativity.

Adjective Description Variables

Significant group effects for the creativity scale were sparse in the adjective description variables. Only seven of a possible 37 teacher variables showed a significant effect, and only three of a possible 31 observer variables (see Table 11-3). Four variables were the same for both groups. These indicated two agreements, one minor disagreement, and one clear disagreement.

Both teachers and observers saw creative students as highly intelligent and less creative students as less intelligent, and both groups gave higher percentages of "total positive" statements about the highly creative students. In addition, measures available only for teachers indicated that they saw the creative students as higher achieving, more athletic, social leaders, and more creative. The highest relationships for the teachers were with intelligent, achieving, and creative, a pattern that makes sense given what is known about the relationships between creativity and intelligence. The perception about social leadership may be simply halo effect, although it does stand to reason that highly creative students might be social leaders if they also were generally intelligent and athletic. Also, the group effect for teachers of social leadership was due to high social leadership reported for the highly creative students. The low creative students were ranked in the middle on social leadership. Thus, it may be that students who are creative in the classroom are social leaders in the peer group.

The observers did not corroborate the teacher perceptions of a relationship between creativity and athletic ability. There was no significant group effect on "athletic" for the observers. They did agree with the teachers in placing the low achievers at the lowest rank on athletic ability, but highly creative students were ranked in the middle rather than at the top. It should be noted again, however, that the teachers were in a better position to know about the athletic ability of the students than the observers were, so that the teacher data probably reflect real student attributes.

The major disagreement occurred, as it has with other scales, with the "other negative" category. There was a significant effect in both groups, but the findings were in opposite directions. As with the high achievers, the observers saw more miscellaneous negative qualities among the highly creative students. In contrast,

the teachers were particularly likely to use miscellaneous negative descriptions in discussing the students they saw as low or medium on creativity, and unlikely to use the negative descriptions when talking about students they saw as high in creativity.

In summary, both the teachers and the observers saw creativity as a generally positive attribute, and both groups seemed to relate it most strongly to intelligence. However, several relationships favoring the creative students in the teacher data were not corroborated in the observer data, and there was one flat contradiction.

Checklist Variables

All six of the checklist variables showed significant effects for creativity. All of them favored the students seen as creative and/or disfavored the students seen as uncreative (see Table 11-2). The creative students were seen as having good peer relations, and the low creative students were seen as least likely to have good peer relations. Low creative students also were seen as most likely to have poor peer relations, with the highly creative students ranked in the middle on this measure. Taken together, these two peer relation variables from the observer checklist provide some support for the teacher descriptions of creative students as social leaders.

In addition, low creative students were described as boisterous and disruptive, as passive and unemotional, as having low self esteem, and as clumsy and lethargic, while highly creative students were least likely to be described in this way. Taken together, these data suggest at least two subgroups among the students consistently ranked low in creativity by teachers. One group is typified by boisterous, disruptive misbehavior, and probably by poor peer relationships involving hostility

and aggression. A second group, which probably does not overlap at all with the first, is typified by passive and unemotional behavior and perhaps also by clumsy or lethargic behavior. Also, students low in creativity were seen as low in self esteem. This could apply to either or both of these hypothesized subgroups of low creative students.

These observer data provide support for the teacher perceptions which were not supported by the observers' adjective descriptions, and they indicate that creative students are perceived generally more favorably than less creative students. They also suggest that the students consistently ranked as low in creativity can be divided into at least two subgroups, one typified by active and aggressive behavior, and another by withdrawn and passive behavior. Passivity and poor peer relations are checklist variables that do not often show significant relationships to other scales. The findings for passivity make sense: truly passive students do seem unlikely to be creative (in any case, they obviously are unlikely to come to the attention of classroom observers as creative). Also, the students coded for poor peer relations tended to be the most immature, impulsive, and uncontrolled students in the sample, so it is not surprising that these students would be perceived as consistently low in creativity.

Classroom Observation Variables

Significant group effects appeared for only 19 of a possible 151 variables for creativity. This probably reflects the fact that creativity cannot be judged easily (if at all) simply from watching students in the classroom. The routines of the teacher and student roles restrict most classroom interaction in ways that minimize the frequency with which evidence bearing on student creativity shows itself. Extended classroom observations, preferably supplemented by opportunities

to inspect student work, would be required for a more confident assessment of student creativity.

1. Total Response Opportunities. Creative students had more public response opportunities than average, and uncreative students had notably fewer (139, 1). This fits expectations based upon the data just discussed, indicating that uncreative students were passive in the classroom.

These differences in public response opportunities are reflected in corresponding differences on measures of private work interactions. The low creative students had especially high percentages of private work contacts, and the creative students had relatively low percentages (37). The same was true for the variable that included approval seeking along with private work contacts (38). These variables are familiar, but in the case of creativity, the reasons for the group differences are not the same as the ones that have cropped up previously. Differences on these variables for the calm, careful, mature, and achieving scales appeared mostly because of the more frequent public response opportunities of students high on these scales, and especially in the frequency of misbehavior by students low on these scales and high rates of private interactions with these students initiated by the teachers and sometimes also by the students themselves. In the case of low creative students, the pattern is caused by their passivity. As we will see, there were no group effects at all for behavior contacts, and the students rated as low creative were notably unlikely to participate in public response opportunity situations.

In addition, it appears that they were less likely to approach the teachers even in private situations, because an unusually high percentage of their private contacts with the teachers were initiated by the teachers (36). Thus, so far,

the data on low creative students suggest that passivity was one of their most notable traits, at least for a significant subgroup of them.

2. Response Opportunities in General Class Activities. Unsurprisingly, given the above, low creative students got a greater proportion of their public response opportunities in small groups, while highly creative students got a greater proportion in general class activities (2, 3). Creative students were especially likely, and uncreative students especially unlikely, to get public response opportunities in general class situations (141). The teachers responded to the passivity of the low creative students by calling on them more frequently as non-volunteers in general class situations (18), but not nearly often enough to equalize participation (141). Finally, the passivity of the low creative students is seen in their low rates of call outs in general class situations (27).

Like students low on other scales, low creative students had a greater proportion of private contacts and a correspondingly lower proportion of public response opportunities, compared to students ranked high on the scale. However, in the case of low creative students, this was due to their passivity and avoidance of response opportunities, rather than to greater frequencies of behavior contacts.

3. Response Opportunities in Small Group Activities. As mentioned, a greater proportion of the response opportunities that low creative students did get occurred during small group activities (2). Even so, as in the general class context, low creative students had a higher proportion of small group response opportunities as non-volunteers, and creative students had a lower proportion as non-volunteers. Apparently, the low creative students did not seek response opportunities, and perhaps even avoided them.

In view of this, the finding that low creative students had a higher percentage of small group response opportunities that resulted because they were waving their hands or seeking response opportunities actively (10) is surprising. If this group effect is due to behavior of the low creative students in general, it suggests that low creative students sought opportunities to respond less often, but were more vigorous when they did. However, given the behavior checklist data suggesting that a subgroup of boisterous students is included along with passive students among those consistently perceived as uncreative, it is probable that the subgroup of boisterous students was primarily responsible for the high score for gaining response through hand waving for low creative students as a group.

With the exception of the variable just discussed, the public response data for creativity indicates that the uncreative students were generally passive. They received public response opportunities less often, even though teachers called on them as non-volunteers more often. Conversely, the creative students were active in seeking and getting response opportunities, particularly in general class situations. This behavior fits the descriptions of them as intelligent high achievers.

4. Private Work Contacts. Only three private work contact variables showed significant group effects, and all three concerned teacher criticism for poor work. The high creative students got less such criticism and the low creative students got more (42, 133, 160). Again, these data fit the description of highly creative students as intelligent and achieving and uncreative students as less intelligent and less achieving.

5. Private Non-work Contacts. The uncreative students were especially unlikely to be requested to perform housekeeping tasks for the teachers (48). Again, this probably indicates that these students were less intelligent and achieving. Teachers did initiate more total contacts with them (142), as well as more work contacts (143) and more personal contacts (145). Again, these data are to be expected given the pattern of passivity and low achievement established as traits of these students perceived consistently as uncreative.

6. Behavior Related Contacts. Not one of the behavior related contact variables showed a significant group effect. This provides more support for the picture of low creative students as primarily passive, but at the same time it calls into question the observer perception of these students as bolsterous and disruptive.

Summary for Creative

Significant group effects for creative vs. uncreative students were sparse. Those that did appear were mostly ones that had appeared for achieving, and they indicated that the students perceived as creative were bright high achievers and the students perceived as uncreative were slow, low achievers. The primary attribute uniquely associated with the creativity scale was the description of low creative students as passive. This description appeared in the checklist data, and it was borne out repeatedly in the observational data. In fact, passivity seemed to be the primary behavioral trait associated with low creativity ratings.

The observational data for creativity are interesting for what they do not contain as well as for what they do contain. They show quite clearly that the creative students were active in volunteering to answer questions and that the un-

creative students were not, although one variable did indicate that some uncreative students were especially vigorous in seeking responses when they chose to do so. In general, though, uncreative students appeared to be low in maturity and achievement, passive in their general behavior, avoiding in respect to seeking response opportunities, unlikely to be called upon to perform housekeeping tasks for the teacher, and likely to be criticized for poor work. Except for the stress on passivity, these are the same general traits seen in students perceived as low achievers or as immature.

However, the passivity comes through in the absence of significant group effects for variables that indicated personal relationships between the teachers and the uncreative students. Neither the teachers nor the students showed significant findings on variables having to do with positive or negative affect. Thus, despite their low achievement and passivity, the uncreative students apparently got along well enough with the teachers. Also, despite their general brightness and willingness to volunteer to answer questions, the highly creative students apparently did not get along with the teachers any better than anyone else. All of these data suggest that teacher rankings of creativity, perhaps even more than teacher rankings of achievement, were based primarily upon the perceived intelligence of their students, and were essentially unrelated to personality variables. Given the significant group effects that did and did not appear, it seems most reasonable to assume that the students perceived as highly creative were bright and high achieving, and that the students perceived as uncreative were passive, primarily because they were not very bright.

Persistent

Teacher rankings and coder ratings of persistence correlated .48, indicating generally good agreement. However, the patterns of intercorrelations

with other scales indicated some differences. Teacher data showed that persistence was among a cluster of variables contributing to the general halo effect. It had very high correlations with calm, careful, happy, achieving, mature, cooperative, attachment, and concern (negatively). The observer ratings showed high correlations for calm, careful, achieving, mature, cooperative, attachment, and concern (again, negatively), but there was a much lower correlation between persistent and happy. This correlation was still positive, but the observers did not tend to see persistence and happiness as going together regularly the way that teachers did.

Also, persistence was correlated positively with noticeable among the teachers, but negatively among the observers. This is another indication of a trend suggested earlier for teachers to have more halo effect in their perceptions, compared to the observers. It also may indicate that observer ratings on noticeable were based primarily on classroom activity (perhaps misbehavior in particular), because persistent students would be spending most of their time working on their assignments at their desks and thus would be less likely than some of the less persistent students to be noticed because they were moving around the room or causing disruption.

Adjective Description Variables

Significant group effects were observed for 13 of 37 possible teacher variables and for 11 of 31 possible observer variables (see Table 11-4). Teachers and observers agreed on 11 of 13 variables where data were available for both groups.

They described persistent students as more helpful, better motivated, more intelligent, higher achieving, better workers, and as more popular. They also

had a greater percentage of positive descriptors of persistent students. Also, students ranked low on the persistence scale (those who gave up easily) were seen as more active, inattentive, and obtrusive. These data from the teachers and observers suggest that the persistent students had generally positive qualities, and that the students who gave up easily not only were not very persistent but also were less attentive and more active (presumably when they should have been working on assignments).

Data available only from the teachers indicated that the teachers also saw the persistent students as more mature, more likely to come from good homes, and less likely to be absent. Students described as less persistent had the opposite patterns. The observers described the persistent students as better behaved and as having better relationships with the teachers. In general, these data on persistent students center mostly on variables directly related to persistence, although there is some indication that the less persistent students were less well behaved generally as well as less persistent in working on assignments. The strongest relationships were with achieving, good worker, and intelligent, a pattern that might be expected from highly persistent students.

This is particularly true of the perceptions of persistent students as good workers, which makes the disagreement between teachers and observers on student responsibility all the more surprising. As expected, the teachers described the persistent students as responsible and the students who give up easily as less responsible. However, the observers did not have a significant group difference on this variable, and, surprisingly, the students ranked as least persistent had the highest mean on responsible. This finding defies explanation, since it contradicts not only the teacher perceptions, but the general trend of observer perceptions.

The other disagreement between the teachers and observers was for the "other negative" category, which often shows disagreements. The classroom observers had a significant group effect here, being likely to use these miscellaneous negative adjectives in describing high and medium persistent students but unlikely to use them in describing students who give up easily. This contradicts the generally positive trend of perceptions of persistent students, but the "other negative" category often contradicts general trends (recall the earlier discussion of the probable lack of validity of this variable). The teachers did not have a significant group effect for this variable, although the mean for the students who give up easily was highest, as would be expected on the basis of their generally negative descriptions of these students.

In general, the adjective description data for persistent students fit expectations, although there were some puzzling disagreements within and between the perceptions of the teachers and the observers. The differences most probably occurred because certain low persistent students also were overly active and poorly behaved, whereas others were simply not very persistent and easily frustrated by difficult work. However, other explanations also are possible.

Checklist Variables

Significant group effects appeared for three of the six checklist variables, and they are very similar to the ones that appeared for the achieving scale (see Table 11-2). Persistent students were described as having good peer relations, and students who gave up easily were described as boisterous and disruptive and as low in self esteem. No differences appeared for passivity, poor peer relations, or clumsy or lethargic.

Of these differences, the one concerning self esteem makes the most sense. Persistence in the face of difficulties and frustrations is one variable that typically is associated with high self esteem, so the significant relationship provides some support for the validity of the perceptions. The relationships with boisterous and disruptive and with good peer relations are less obvious, because these traits are not directly related to persistence. However, if persistent students do have the general pattern of good qualities that the adjective description data suggest, and if students who gave up easily have the general pattern of undesirable qualities that the adjective data suggest, these findings make sense.

Classroom Observation Data

Significant group effects appeared for 35 of a possible 158 classroom observation variables, the most for any of the scales discussed in this chapter. The differences may result from the fact that persistence, in contrast to achieving and creative, seems to involve student misbehavior to a much greater extent. Students who gave up easily on assignments not only lack persistence but apparently misbehave after giving up working on their assignments.

1. Total Response Opportunities. The same four variables that showed group differences for achieving and for the scales in the previous chapter were significant for persistent as well. The persistent students had fewer total contacts and the students who gave up easily had more total contacts with the teachers (164), but a greater percentage of the contacts of the persistent students were public response opportunities (1). In contrast, a greater percentage of the work contacts involving students who give up easily were private contacts (37), and the same was true for the measure of private work contacts plus approval

seeking contacts (38). So as with low achieving students, teachers had more frequent contacts with low persistent students, primarily because the teachers themselves initiated more such contacts.

2. Response Opportunities in General Class Activities. Persistent students had the highest mean for response opportunities in general class activities. The students who gave up easily had the next highest mean, and students ranked in the middle on the persistence scale had the lowest mean proportion of response opportunities occurring in general class contexts (3). This indicates that the highly persistent students were more likely than average to be called on in general class situations. However, the low persistent students were slightly above average as well.

The persistent students were most likely and the low persistent students least likely to obtain general class response opportunities by volunteering (21). The reverse was true for non-volunteer response opportunities, although the effect was not significant (18). However, when low persistent students were called on as non-volunteers in general class settings, they were more likely to be praised (19). This suggests that the teachers were trying to encourage the low persistent students to volunteer more often.

3. Response Opportunities in Small Group Activities. Persistent students had a lower proportion of response opportunities in the small group setting (2, 140). Students who gave up easily had percentages slightly lower than average, while students ranked in the middle on persistence had higher percentages of small group response opportunities. The data for the students who gave up easily do not fit the usual pattern here: although highly persistent students volun-

teered more and were called on more in public response opportunity situations, students who gave up easily were average rather than low in their volunteering, so that their response opportunities were nicely balanced between the small group and general class contexts. These data suggest that the students who give up easily on assignments are not alienated from learning generally. They volunteer to answer questions about as often as students in general. Their difficulties apparently have to do with attention span and frustration tolerance, particularly when working on assignments.

Even so, the persistent students did receive more response opportunities as volunteers, and the students who gave up easily received fewer response opportunities as volunteers, in the small group setting (7). On the other hand, the students who gave up easily had a notably high rate of response opportunities obtained by waving their hands enthusiastically (10). These data continue the somewhat confusing and inconsistent pattern of findings for students ranked low on persistence, indicating that they were composed of two or more different subgroups and/or that they were inconsistent in their behavior.

4. Private Work Contacts. Five of the private work contact variables showed significant group effects for persistence, and all five had to do with affective aspects of these interactions. Thus, neither the highly persistent students nor the students who gave up easily were more likely to initiate work contacts with teachers or have teachers initiate such contacts with them. However, the qualitative aspects of the contacts that did occur differed for the two groups.

Students who gave up easily had high proportions of teacher initiated work contacts involving teacher criticism (42) and teacher negative reactions (44). The opposite was true of highly persistent students. The same pattern

also held for the total number of teacher initiated work contacts which involved criticism for poor work (160).

In addition, student initiated work contacts were especially unlikely to involve teacher impatience when the highly persistent students were interacting with the teachers (104). Conversely, the teachers were more likely to be impatient when students who gave up easily initiated interactions with them. These four relationships provide a solidly negative picture for the quality of affect of the relationships between the teachers and the students who gave up easily. However, standing against this trend is the tendency for teachers to praise these students more often when they (the teachers) initiated work contacts with them, as well as a corresponding tendency to praise the highly persistent students less often (159).

Coupled with the previously mentioned praise for good answers in non-volunteer response opportunities in small groups, these data indicate that the teachers had strong emotional reactions toward the students who gave up easily, but that these reactions included positive as well as negative elements. The teachers often criticized these students for poor work, and sometimes they became sufficiently exasperated with them to show impatience or negative affect. At the same time, they seemed to be trying to encourage these students by praising them when they did well.

5. Private, Non-work Contacts. Teachers had more of these non-work contacts with the students who gave up easily than with other students (39). This was partly because the persistent students were less likely than the students ranked low and medium on persistence to come to the teacher to tattle (125), but mostly because the teachers initiated more contacts with the students who gave up

easily than they did with the persistent students (142). This was true of teacher initiated work contacts (143), teacher initiated personal contacts (145), and teacher initiated social contacts (146). However, there was a non-significant tendency for teachers to initiate more housekeeping contacts with the persistent students (144), and a greater proportion of the private contacts that the persistent students had with teachers did involve housekeeping (48).

This pattern is very similar to the pattern seen with low achieving students. Despite lack of persistence, and despite the fact that these students sometimes engendered negative affect in the teachers, the teachers initiated contacts with them frequently. Furthermore, these contacts included social contacts as well as work related and personal contacts. Along with the praise data reported earlier, this suggests that the teachers were trying to build better relationships with the students who gave up easily and trying to motivate them to do better work. Even so, they still turned to the persistent students when they wanted housekeeping chores done.

This pattern has appeared for several of the scales, and it is becoming clear that teacher initiated housekeeping requests are one indication of teacher attitudes toward students. Housekeeping requests are given most often to the students that the teacher sees as mature and responsible. Also, because these students usually have good work habits and high intelligence, they are more likely to have free time available to run errands and perform chores than other students who still are working on their assignments.

The final variable in this set which showed a significant group effect was the proportion of student initiated work or approval seeking contacts which resulted in praise from the teacher (111). Here again, the teachers were especially likely to provide praise to the students who gave up easily. It appears that

the teachers were trying to motivate these students, despite their ambivalent feelings about them. Unfortunately, teacher praise given in this particular context does not appear to be an effective motivator (Brophy & Evertson, 1976). Nevertheless, the data indicate that the teachers had good intentions. These students apparently were exasperating, and the teachers sometimes responded to such overtures with impatience. Even so, they usually were receptive and even provided praise unusually often. In general, then, the data so far suggest that the students who gave up easily were exasperating but that the teachers were trying to encourage them to do better work when opportunities arose.

6. Behavior Related Contacts. The teachers had many more behavior related contacts with the students who gave up easily than they did with the persistent students (60, 147). Furthermore, the nature of these interactions gives some idea as to why the students who gave up easily appeared to vex the teachers. These students not only had more frequent behavior contacts, but they were especially likely to misbehave in ways that involved aggression or defiance directed at the teacher (64). Also, the highly persistent students were especially unlikely to misbehave in negativistic ways (74), and to respond to the teachers with sullenness (76). However, the students who gave up easily were likely to respond with sullenness.

The result of this pattern of student behavior shows up in teacher responses to misbehavior. In contrast to other groups, toward whom the teachers responded with simple management interventions, teachers responded to misbehavior by the students who gave up easily with warnings (71, 83), criticism and punishment (73), and generally negative reactions (137). The teachers also were especially likely to hold up low persistent students as bad examples to the rest of the class (150).

Taken together, these data indicate that the highly persistent students were model students in many ways, and that the students who gave up easily posed severe behavior problems in addition to difficulties in their work habits. Furthermore, several variables indicate that the teachers interacted inconsistently with these students and frequently lost their patience with them. On the other hand, just as in previous data sets, there is evidence of teacher ambivalence rather than total negativism. Despite all of the above, the teachers were more likely to display physical affection toward the students who gave up easily than toward the persistent students (152).

Summary for Persistence

In general, the persistent students came off as model students on every variable on which a significant group effect appears, and the students who give up easily came off as very difficult and frustrating students similar to those consistently perceived as restless. However, whereas teacher behavior toward the restless students was almost completely negative, the data on teacher interactions with students who give up easily suggest powerful ambivalence. These students sometimes were aggressive and defiant toward the teachers, and sometimes they responded to discipline by becoming sullen. Also, the teachers sometimes were impatient and highly negativistic toward these students. Even so, there were significant differences favoring these low persistent students on the measure of physical affection and on several measures of praise. These data suggest that the teachers were aware of their difficulties with these students and attempting to do something about them by initiating social contacts with them, showing physical affection, and praising when they got the opportunity to do so.

Given that these students remained consistently in the extreme group as students who give up easily, and given their behavior, it is noteworthy that the teachers persisted in these attempts. It is instructive to compare the students low on the persistence scale with the restless students, in view of the evidence that teachers were trying much harder to take a positive approach to the difficulties presented by the students low in persistence, whereas they mostly appeared to have given up on the restless students.

Conclusion

Fewer significant group effects were observed for students perceived consistently on the achieving and creative scales, compared to the other scales reviewed so far. Furthermore, these data indicate that the teacher rankings of achievement and creativity were based primarily upon student intelligence and achievement. Most of the data reflect this directly, and few significant group effects indicate strong affect toward students either high or low on either scale. Furthermore, in contrast to students who were high and low on the other four scales reviewed so far, misbehavior did not appear to be an important issue with students high and low on achievement and particularly on creative.

Students high on these two scales tended to volunteer for and get response opportunities, especially in general class activities. Students ranked low on these scales did not, but nevertheless the teachers initiated contacts with them often, including purely social contacts. The only exception to this pattern concerns teacher initiated housekeeping contacts. When the teachers wanted something done, they tended to turn to the students they perceived as most responsible, even though in general they initiated interactions with these students less often.

The data for persistence contrasted somewhat with those for achieving and creative, in that strong elements of student misbehavior and student and teacher affect were involved. In this respect, the students perceived consistently on the persistence scale were similar in many ways to those perceived consistently on the calm versus restless scale. The persistent students generally were model students who achieved well, worked well on their assignments, and stayed out of trouble, while those who gave up easily on assignments also misbehaved frequently, defied the teachers, and generally posed serious challenges to the teacher's authority. As a result, the teachers responded with negative affect of their own, and with frequent criticism and punishment. However, in contrast to the almost completely negative treatment of restless students, teachers were notably ambivalent toward the students who gave up easily. Despite negative behavior on the part of these students, and despite their own tendency to lose patience with them, the teacher initiated more social interactions with them, displayed more physical warmth toward them, and praised and encouraged them more often.

Table 11-1. Highest Achiever

<u>Adjective Descriptions</u>	TEACHERS Groups				OBSERVERS Groups			
	Low	Med	High		Low	Med	High	
2. Mature	3	2	<u>1</u>	***	3	2	1	
8. Motivated	3	2	1	**	3	2	<u>1</u>	*
9. Intelligent	3	<u>2</u>	<u>1</u>	***	3	2	1	***
10. Achieving	3	<u>2</u>	<u>1</u>	***	3	<u>2</u>	<u>1</u>	**
11. Good Worker	2	3	1		3	2	1	**
14. Responsible	3	2	1	**	3	1	2	
17. Inattentive	1	2	3	*	1	3	2	
20. Athletic	3	2	1	*	2	1	3	
22. Other Negative	1	2	3		3	<u>2</u>	<u>1</u>	**
23. Other Positive	3	2	1		3	2	<u>1</u>	*
28. Good Home	3	2	<u>1</u>	***		NA		
29. Creative	3	2	<u>1</u>	**		NA		
31. Often Absent	1	2	3	**		NA		
35. Untrustworthy	<u>1</u>	2	3	*		NA		
37. Good Teacher Relations		NA			3	<u>2</u>	<u>1</u>	*
40. $\frac{1}{2}$ Positive	3	2	1	***	3	2	1	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 11-2. Rank-Ordering of Group Means on Behavior Checklist for
Students Perceived Consistently on the Achieving, Creative,
and Persistent Scales.

Variable Name	Achieving				Creative				Persistent			
	Low	Middle	High		Low	Middle	High		Low	Middle	High	
1. Boisterous, disruptive	<u>1</u>	2	3	***	<u>1</u>	2	3	*	1	2	3	***
2. Passive, unemotional		NS			<u>1</u>	2	3	***		NS		
3. Good peer relations	3	2	<u>1</u>	***	3	2	<u>1</u>	***	3	2	<u>1</u>	***
4. Poor peer relations		NS			<u>1</u>	3	2	***		NS		
5. Low self-esteem	<u>1</u>	2	3	***	<u>1</u>	2	3	***	<u>1</u>	2	3	***
6. Clumsy, lethargic		NS			1	2	3	***		NS		

*
 $p \leq .05$

**
 $p \leq .01$

 $p \leq .001$

Table 11-3. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Creative Scale.

<u>Adjective Descriptions</u>	<u>TEACHERS</u> Groups				<u>OBSERVERS</u> Groups			
	<u>Low</u>	<u>Mid</u>	<u>High</u>		<u>Low</u>	<u>Mid</u>	<u>High</u>	
9. Intelligent	3	<u>2</u>	<u>1</u>	***	3	<u>2</u>	<u>1</u>	***
10. Achieving	3	<u>2</u>	<u>1</u>	***	-	-	-	
20. Athletic	3	2	1	*	3	1	2	
22. Other Negative	<u>1</u>	3	<u>2</u>	*	3	<u>2</u>	<u>1</u>	*
24. Social Leader	2	3	<u>1</u>	*	-	-	-	
29. Creative	3	2	<u>1</u>	***		NA		
40. % Positive	3	<u>2</u>	<u>1</u>	***	3	2	1	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 11-4. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Persistent Scale.

<u>Adjective Descriptions</u>	<u>TEACHERS</u>				<u>OBSERVERS</u>			
	<u>Groups</u>				<u>Groups</u>			
	<u>Low</u>	<u>Mid</u>	<u>High</u>		<u>Low</u>	<u>Mid</u>	<u>High</u>	
2. Mature	2	3	1	***	-	-	-	
5. Helpful	3	<u>2</u>	<u>1</u>	***	3	2	1	
6. Well-behaved	-	-	-		3	2	<u>1</u>	**
8. Motivated	3	2	1	***	3	<u>2</u>	<u>1</u>	**
9. Intelligent	3	<u>2</u>	<u>1</u>	***	3	2	1	***
10. Achieving	3	2	1	***	3	<u>2</u>	<u>1</u>	***
11. Good Worker	3	2	1	***	3	<u>2</u>	<u>1</u>	***
12. Popular	3	2	<u>1</u>	**	3	<u>2</u>	<u>1</u>	**
14. Responsible	3	2	<u>1</u>	***	2	1	3	
15. Active	<u>1</u>	<u>2</u>	3	**	1	2	3	
17. Inattentive	<u>1</u>	2	3	**	1	3	2	
18. Temperamental	1	2	3		1	2	3	*
19. Unobtrusive	3	1	2		3	<u>1</u>	<u>2</u>	*
22. Other Negative	2	1	3		3	<u>2</u>	<u>1</u>	*
28. Good Home	3	2	<u>1</u>	***		NA		
31. Often Absent	1	2	3	*		NA		
37. Good Teacher Relations		NA			3	<u>2</u>	<u>1</u>	**
40. % Positive	3	2	1	***	3	2	1	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

DISCUSSION OF STUDENT ABILITY AND WORK HABITS

In this chapter, we will reflect on the behavioral correlates of teacher and observer perceptions on the six scales discussed thus far. These scales measured attributes relevant to students' ability to cope effectively in the student role and to complete work-related assignments given to them by teachers. Notice that there is considerable overlap among the variables which describe students rated "high" or "low" on these six scales.

There are three primary reasons for this: 1) the teacher perception scales are generally highly (positively) correlated; 2) the same student behaviors are in fact associated with correlated ratings on calm, careful, mature, achieving, persistent, and creative; and 3) in connection with both of these points, the data collection methodology predisposed some degree of overlap or "halo" in the ratings. Scales were not defined operationally for the teachers; they had little more to go on than the descriptions for the two poles of each scale. Given these considerations, it was not surprising that certain findings for response opportunities in small groups versus whole class situations, number and types of private contacts, and behavior-related contacts replicated across all six scales.

In summarizing the voluminous results of the previous two chapters, we will construct "typologies" of students ranked low and high on the six scales. That is, we will indicate which behaviors or patterns of behaviors are related to perceptions of students as calm, careful, achieving, etc., and which are related to perceptions of students as restless, careless, low achieving, etc. We will point out which behaviors are common to most or all of the "student types," and which differentiate clearly between groups.

A reminder: one cannot argue "cause and effect" from these data. We do not know for sure whether the teacher perceptions of certain students as restless were caused by their misbehaviors, or vice versa. But, we can make

some appropriate inferences along these lines based on examining patterns of teacher-student interactions (not just results based on single variables) and the ways that these patterns relate to the contexts in which interactions were observed.

Calm vs. Restless

One generalization we can make here that seems strongly "data-based" is that the students perceived as calm usually were oriented toward the "good student" role. One exception here that might have been expected was that some students seen as very calm also could be overly introverted, shy, and unhappy. Results of this nature were found on some of the "high inference" ratings, suggesting there is a subgroup of calm students who probably avoid classroom interaction to their detriment.

Generally, though, the calm students acted in accord with "ideal" student roles. They were involved in whole class discussions and received high rates of behavioral praise. Restless students, on the other hand, showed quite different patterns of classroom activity.

With regard to findings we will see occurring again for other scales, restless students had more "private" interactions with teachers, had more interactions which they initiated refused by the teachers, had more behavior-related contacts, and received higher proportions of work praise and criticism. These results lend credence to the initial perceptions of these students as restless, and they suggest some of the teachers' strategies for dealing with these students. The high rates of private contacts indicate that teachers and restless students acted on this apparent need to work together with each other in one-to-one situations. The many misbehaviors

coded for these students suggest there was good reason for the teachers' perceptions of them as restless.

The praise and criticism findings will show up again for several of the other "low" groups. This apparently means that one of the major strategies teachers have adopted in interacting with "poor students" is to evaluate them more -- both positively and negatively. Teachers may do this in an attempt to socialize these students to the ideal role (already accepted by the "calm" students), and/or they may be operating on the notion that they need to provide less feedback to the better students. That is, perhaps calm students get low rates of praise and criticism, causing the "normal" feedback given to restless students to be seen as high rates.

The psychology of child development suggests an hypothesis (which could be tested in future experimental work) about the moral development levels of the calm and restless students. Kohlberg (1969) has proposed that children advance from being very self-oriented, deferring only to greater authority, to being cognizant of social roles, stereotypic images, and others' expectations. Given this framework, we would expect more of the calm students to be operating at the higher stage (stage 3 in Kohlberg's theory) and more of the restless students to be operating at the lower stage (stage 2).

Careful vs. Careless

Almost all of the significant results for the careful versus careless scale also were found for calm versus restless, although calm showed more group differences than careful. Another indication of the high degree of relationship between these two measures is the .76 correlation between calm and careful. This tells us that about 59% of the variance (variability) in teacher perceptions was common to -- the same for -- both of these scales.

In general, careless students interacted with teachers more often, but as with the restless students, this resulted primarily from high rates of private interaction (although careless students did vigorously volunteer more often in small group situations). Careless students also were criticized for poor work more frequently in private interactions with the teachers. Careful students were checked on less often and had their work criticized less often.

There also were some results suggesting at least two distinct subgroups of careless students. Teachers did not give more refusals to the careless students (as they did for restless students and students low on several other work habits and ability scales). Also, teachers showed a higher degree of physical affection toward careless students. It seems unlikely that these are the same students that have extremely high rates of misbehavior, aggression directed toward the teacher, and high frequencies of "sullen and defiant" responses.

As stated in Chapter 10, we propose that two different types of students were being perceived by the teachers as restless. One type is sloppy and forgetful, but reinforces the teacher in other ways (primarily by not being alienated from the schooling experience). Teachers respond to this in kind, with physical affection and low rates of refusal. The other type of restless student probably is very aggressive, defiant, unmotivated, and generally difficult for the teacher to deal with. We cannot state that this is the underlying reason for the puzzling findings, but it does seem like a reasonable interpretation of otherwise contradictory results.

Mature vs. Immature

Teachers generally described the mature students more favorably than the classroom observers did. However, there were data collection and analysis

procedures which make this difficult to interpret meaningfully. First, the sample of students involved in the observer ratings analyses included nearly all of the students in the study (only those who could not be rated at all were excluded), but the teacher rankings data came from different subgroups, depending on who was consistent on which scale. Secondly, any one teacher was involved only with students at one grade level, but observers collected data in two, three, or all four grades. In this case, observers were instructed to rate students on "maturity" relative to their same-age classmates, but it seems likely that they were affected to some extent by their knowledge of students in higher and lower grades.

As with the calm and careful students, the mature students got more public, whole class response opportunities, but fewer private contacts (in comparison with the medium and low mature groups). In small group situations, immature students got more response opportunities, but this was caused primarily by teachers calling on them more when they did not volunteer. This probably reflects a teacher strategy of calling on immature students both as a controlling mechanism (to keep them from acting up and make them pay attention), and as a means of equalizing class participation (mature students are more involved in whole class discussions).

There also were several findings which indicate that immature students are less peer oriented, cause more behavior problems, and are frustrating to the teachers, as well as being frustrated by some teacher responses to their behavior. High inference observer ratings showed the immature students as more boisterous and disruptive, to have poor peer relations, and to have low self-esteem. The teachers responded more often to their initiations with impatience, refusals, or criticisms, but they also praised them more often for good work in private contacts. These data present a picture of teachers

being critical and "turned off" by immature students, but not without reason. It also seems that the immature students were more susceptible to being influenced by teacher behavior (they are less peer-oriented). Teachers apparently try to take advantage of this by working to get these students motivated and involved in class activities.

This notion is elaborated further by findings that teachers initiated more personal and social contacts with immature students. Also, mature students more frequently responded negatively to teacher initiated social contacts. Though the immature students did misbehave more, teachers still directed more physical affection toward them (while mature students got more praise for their actual behaviors).

The data for the mature scale seem to support the developmental hypothesis mentioned for calm versus restless. As students mature, they become more aware of what the "student role" entails (fewer misbehaviors, more involvement in class activities, etc.). At the same time, they are "de-centering" (becoming less self-oriented) and coming to understand what their peers are expecting of them. They also are beginning to see how important it is to act accordingly to gain peer approval. Thus, they are progressing from actions based solely on self-serving needs and avoidance of punishment toward actions which place them (simultaneously) in two or more recognized roles -- the "good" student and the "popular" student. In a trend which continues up to and through adolescence, whenever these roles conflict, they become more and more likely to respond as their peers expect them to as they get older and more socially mature.

High vs. Low Achieving Students

As expected, the findings for this scale strongly "favor" the high achievers -- they are seen as functioning better in the classroom and as having more desirable, positive attributes than low achievers. Teachers saw high achievers as more mature, responsible, motivated, intelligent, and athletic, while observers saw them primarily as good workers (high achievers) and poor or inefficient workers (low achievers). This indicates that teachers may have used the students' general intelligence and developmental levels more in forming their judgments, while observers based their ratings more on "degree of application to work." This makes sense when one considers that the persistence (and, to some extent, the quality) of the student's work was about all that observers had access to in forming their impressions of high and low achievers. High achievers also were seen as having good peer relations, and as unlikely to be boisterous or to have low self-esteem.

As with calm, careful, and mature, the low group on the achievement scale had more total contacts with the teacher, more private contacts, and fewer whole class response opportunities. This is emerging as one of our most consistent findings: students who are doing well interact with the teacher less in private contact situations, while "bad" students interact more in private contacts, but do less in front of the whole class. There is a possibility that this was related to the presence of an observer (e.g., teachers wanting to interact with poor students quietly and privately), but it probably was due primarily to real needs to deal with these students on a one-to-one basis more extensively.

Low achievers receive more response opportunities in small group situations. This may be partially due to teachers' attempts to equalize participation for all students, but this finding can be also explained by

context. "Small group" codes generally refer to language arts groups which are usually "tracked" by ability. Because of this, the groups were relatively homogeneous -- either mostly low achievers or mostly high achievers. Since the only coding during simple recitations (when a student reads a passage without teacher intervention) would be a mark reflecting the manner in which the teacher called on a student, the number of coded small group response opportunities for students capable of reading without any problems or interruption would be low in comparison to the codes made for students experiencing some difficulty in their reading turns. That is, high achievers could read without the teacher having to ask questions, probe, provide feedback very often, in contrast to the low achievers. Consequently, behaviors such as questions, probes, and feedback would be expected to occur with greater frequency in groups composed of low achievers, and the data bear this out.

As with some of the other "low groups," the low achievers were more likely to be refused by the teacher if they attempted to initiate private work contacts. This finding is best understood in connection with the teacher behavior required when a student comes to the teacher for help. Often, students tried to initiate private contacts with the teacher during "seatwork" periods. During these times, the teacher usually was working with 5-8 students in a small group while the rest of the class worked on assignments on their own. So, when any student -- a low or high achiever -- approached a teacher under these circumstances, the teacher usually was busy.

High achieving students might only want to know if an answer was correct. It probably would be, and the teacher only would be required to give a brief, "Yes, that's right," and the student's need would have been met. No "refusal" would be coded. On the other hand, a low achieving student might approach the

teacher saying, "I don't understand this paragraph." This is impossible for teachers to deal with in a very brief manner. When they are busy, they "refuse" the low achiever. Actually, they usually delay the student until a more appropriate time (unfortunately, our coding system did not have a "delay" category).

Support for this interpretation comes from three different items of data: 1) high achievers had quite a bit more brief feedback interactions, 2) low achievers had more (though this was not statistically significant) long feedback, and 3) low achievers generally had higher totals of private contacts with the teachers. These data suggest that, despite "refusals," the teachers were getting back to low achievers later to deal with their problems more effectively. A similar interpretation could be seen to apply to the restless and immature groups' high rates of refusals, although the teacher responses to those students also may have been affected by the student's actual behaviors in attempting to initiate contacts (coming at especially inappropriate times, or misbehaving in the process of the work-related interaction).

Teachers initiated more private contacts with low achievers, followed next by high achievers. They initiated the fewest with the middle achievers. This makes sense if we consider the middle achievers as the least visible and demanding of the three groups. It also probably reflects the teachers' concern for first "teaching the lows" and working with the high achievers to get them to reach their potential. The "middles" may be left out for lack of time.

Lundgren (1972) found that secondary-level teachers directed their efforts more toward the "low-middle" group of students -- not the "low" group. The difference in findings may be due to our data coming from the elementary grades (two through five). This would make sense if teachers were trying not

to allow poor students to fall irretrievably behind their classmates at the early grade levels. It may be (unfortunately so) that by the time "low" students reach high school age, teachers have given up on them and begin to concentrate their efforts on the low-middle group.

Teachers also interacted more with low achievers in personal and social contacts. This shows that they maintained healthy interpersonal relationships with these students, in addition to working with them more on academic matters. Low achievers misbehaved more often, perhaps because they could not complete assignments and got into trouble when they had nothing to do. The behavior problems they presented did not appear to be strongly aggressive or defiant misbehaviors, but rather, non-interactive misbehaviors less threatening to teachers.

Creative vs. Uncreative

The literature on creativity is ambiguous. Generally, there has been difficulty in finding creativity measures which correlate among themselves as highly or higher than they do with intelligence tests (maximum correlations between creativity and intelligence of .20 to .50 have been reported). Most researchers agree that creativity is conceptually distinct from intelligence, but measures of creativity generally accepted as valid do not currently exist. With these problems, it is not surprising that teachers' judgments of students' creativity seemed influenced heavily by perceptions of achievement and intelligence. Also, it seems worthwhile to note again that the teacher perception data were obtained by giving the teachers the names of the two ends of the scale -- creative and uncreative in this case -- and having them rank-order their students between these two poles. That is, no objective or behavioral definitions of the scales were provided.

In comparison to the low creative group, the highly creative students were rated as having better peer relations, being less boisterous and disruptive, less likely to have low self-esteem, and less clumsy and lethargic. As we mentioned in the previous chapter, this seems to define two groups of "low creative" students: one which is passive, withdrawn, and has low self-esteem, and another which is aggressive and boisterous.

As with the other measures of student ability and work habits, the high group on the creative scale got more whole class response opportunities, while the low group received more small group and private interactions. This probably was because of the way the students were grouped (see the discussion under "High vs. Low Achieving Students"), as well as because of the generally passive nature of some low creative students. Their passivity is seen in that the low creative group got a higher percentage of their private contacts because the teacher initiated them.

Evidence for an active, aggressive subgroup of low creative students comes from the variable "waving hands" in small group situations. This was coded more often for low than for middle or high creative students, suggesting that at least some low creative students vigorously sought public response opportunities in small group contexts. Students perceived as low in creativity also got more work-related criticism in private interactions with the teachers. This probably was because these students were perceived as low achieving, low intelligent students who also received high rates of criticism.

As with other scales, the low creative group got more teacher initiated contacts -- work and personal-related. One other finding, though, unique to the low creative group, concerned behavioral management contacts. There were no significant differences in measures of student misbehavior and corresponding

teacher reactions. This indicates that, while the low creative students were responded to much as if they were one of the other "low" groups, they were not causing any particular classroom problems, as the other low groups were. These data suggest that intelligence and achievement differences, but not behavioral differences, characterized high versus low creative students. This should have been expected, given the difficulty of rating students on creativity from observing them in classrooms.

Persistent vs. Gives Up Easily

The persistence scale correlated so highly with so many of the other scales, that we might say that it is one of the basic scales (along with achievement and cooperative) that teachers and observers used in making "halo" type judgments about students. The highly persistent students also were rated as more helpful, better motivated, more intelligent, higher achievers, and more popular. High persistent students were seen as more responsible and having better peer relations, while those perceived as low persistent were rated as boisterous and disruptive and low in self-esteem.

Fitting in with the previously established pattern, students seen as giving up easily interacted more with teachers in private contexts; high persistent students got more general class response opportunities. Persistent students got more response opportunities through volunteering. When low persistent students were called on as non-volunteers, they were more likely (in comparison to the middle and high groups) to be praised by the teacher. This latter finding suggests that teachers may be trying to encourage participation in the students who give up easily by praising their responses.

In contradiction to the findings for the other scales that have been discussed, the low persistent students did not have more small group

interactions -- the middle group had the highest frequency on this variable. Apparently, the activity of the low persistent students was about evenly distributed between small groups and whole class discussions. The students perceived as low in persistence did receive more response opportunities after vigorous hand-waving than the other groups. This indicates that, when these students did volunteer, they did not mind being enthusiastic about it, at least in a small group context.

There were no group differences on the persistent scale in the overall rate of initiation of private contacts, but the teachers criticized, reacted negatively, and responded with impatience in more interactions with low persistent students than with the middle and high groups. In teacher initiated interactions and in student initiated work or approval seeking contacts, teachers praised the students seen as giving up easily. This probably represents teacher attempts to encourage their participation in academic pursuits. Even the criticism data may be construed as communicating expectations to these students that they could do better with more effort. There also was the previously mentioned tendency for teachers to evaluate poor students more -- this includes both positive and negative evaluations.

As well as initiating more private work-related contacts with the low persistent students, teachers had more personal and social contacts with them. This seems unusual in light of the behavior problems posed by these students: they had higher overall frequencies of behavioral contacts, they reacted more with aggression and defiance; the teachers used more strict means of behavior management (e.g., criticism); and these students responded frequently with behavior coded as "sullen."

- The data were particularly clear-cut for the persistent scale, but the same trends have been seen in the behavior patterns for the other student

types discussed. A cycle of student misbehaviors and teacher disciplinary actions is observed, along with high rates of teacher initiated personal and social interactions. There definitely were some students who were low in work habits and ability but did not cause behavior management problems. However, a large proportion of the students rated low on persistence and the other scales were discipline problems for the teachers.

It seems likely that, to a certain degree, these behavior problems may have been caused by difficulties with schoolwork (and, perhaps, vice versa). So, teachers were confronted with low achieving, unmotivated, misbehaving students. What avenues were available? Teachers attempted to establish rapport by initiating personal and social interaction and by showing physical affection toward these students. These can be seen as adaptive moves geared to affect the student's experience with school positively. If successful in these efforts, teachers might be able to break the misbehavior cycle which would then allow work related activities to occur with better effect.

Though our data do not speak to the probable success of such a strategy (we can only say which behaviors and which perceptions were related, and how strong the relationships were), it seems sound to the extent that a workable rapport can, in fact, be established. If the teacher's attempts to socialize and develop interpersonal relationships with these students do not affect them or only further alienate them, a new strategy would be needed.

In any case, students perceived as highly persistent were basically "model" students, and the "low persistent" students elicited "ambivalent" responses from teachers attempting to control their disruptive misbehaviors and get them reinvolved in the process of learning. The same was true, in varying degrees, of teacher interaction with students low on other scales. An interesting comparison may be made between the patterns of teacher-student

interaction with the "restless" and "low persistent" students. Teachers took a generally more positive approach to the low persistent students, even though both types of students presented similar problems in behavior management. Perhaps the low persistent students were lacking only in effort and motivation, and were seen as open to being "brought around" to the "good" student role. Conversely, the restless students may have presented such constant and severe threats to classroom discipline that the teachers had to spend most of their energies in interacting with these students in controlling their behaviors (many times, in aversive ways, by necessity).

Summary and Conclusions

What can we learn from these findings? What are the major implications? For one thing, we have seen how teacher perceptions of students as calm, careful, mature, achieving, creative, and persistent are so highly interrelated that all six scales may be described as measures of "work habits and ability" (factor analyses support this, too -- see Crawford, et al., 1976). We have attempted to specify behavioral typologies of the students and to designate frequently occurring patterns of teacher-student interactions for each group (low, middle, and high) on each scale. These different typologies and interaction patterns were almost as highly related as the teacher rankings themselves. The commonalities (among the behavioral data for the different types of students) and differences were noted. Some of the more interesting findings resulted from comparisons of behavioral data on students seen as low on one scale and low on another, when those data showed obviously contrasting patterns.

As discussed for the calm and mature scales, evidence was found for behavioral differences based on the moral development levels of the students.

In a sense, students develop toward an awareness of two possibly conflicting roles -- the "good" student and the one who is popular with his or her peers. It is possible to fill both roles, but we may expect peer pressure to become increasingly important as adolescence approaches.

Some of these findings are suggestive of certain changes which might be made in classroom processes or teacher-student dyadic interaction patterns. Certainly, it would be helpful if teachers were able to be more aware of their perceptions of students, including their categorizing of students (even when observable behavior warrants it) into broadly defined student "types." Knowledge of possible effects of these perceptions would help teachers maximize their effectiveness. If the teacher's perceptions and actions are integral components in sustaining undesirable cycles involving "low" students, the teacher should be able to decide where changes may be made to bring those students "out of the cycle" and into the classroom.

These data also illustrate how a classroom is a dynamic, complex social structure, with causes and effects so interwoven that we must resort to discussions of cycles (with no ultimately discernible causes) and patterns of teacher-student interaction in discussing observable behaviors. The dyadic interaction between the teacher and the student is indeed a two-way street. Each "side" affects the other. Actions taken by one participant eventually will produce outcomes in the other. Misbehaviors lead to negative teacher behaviors such as criticism and low perceptions of students, just as these teacher behaviors may trigger more misbehaviors. Few simple solutions are available. However, one might be that a significantly lower student/teacher ratio would help eliminate the teacher responses coded as "refusal" and "impatience." Other solutions require recognition of individual student differences within the types of students we've discussed thus far. Ultimately,

as teachers and students come to better understand the potential consequences of their actions, both parties will be able to modify their behavior in ways which facilitate learning and instruction in the classroom.

In this chapter, we will consider two student attributes that contribute to their general social attractiveness: happiness and physical attractiveness. Students consistently perceived as happy usually were well liked and enjoyed by teachers, because they had cheerful dispositions and friendly, optimistic approaches to classroom living. People with such traits usually are popular in any context. In contrast, consistently unhappy people are less likely to be well liked by others. If the reasons for their unhappiness are known and understandable, they may be pitied rather than disliked. However, their own unhappiness may make others around them uncomfortable, so that they are unlikely to be very popular and may even be social isolates.

Physical attractiveness is one of those personal attributes that has no logical linkage to school achievement or teacher-student interaction, but was included in the study because previous research had shown that attractive individuals were perceived more favorably than less attractive individuals (Dion, Berscheid, & Walster, 1972; Berscheid & Walster, 1972). Furthermore, some studies suggested that physical attractiveness might make a difference in teacher perceptions and treatment of students.

For example, in one study (Clifford & Walster, 1971), fifth grade teachers were asked to make predictions about educational success and other matters, based on student report cards. Report cards for comparison students were identical, except that some were accompanied by a picture of a student judged to be physically attractive, and others were accompanied by a picture of a student judged to be physically unattractive. Even though the reports were identical except for the photos, more promising predictions were made about the attractive students.

Relationships between attractiveness and other variables are not completely illogical, although they are stronger than they "deserve" to be. In part, their reasonableness depends upon what kinds of things are taken into account when teachers (or anyone else) rate attractiveness. If ratings are based on purely physical features, there should be few relationships to anything else. However, if differences in attractiveness are affected by differences in nutrition and general health care, which in turn are related to differences in SES, some genuine relationships might be expected. Stronger relationships would be expected where ratings of attractiveness took into account not only purely physical characteristics but also manners, social sophistication, clothing, grooming, and other attributes reflective of general SES and even of family values.

We asked teachers and observers to restrict themselves to purely physical features in rating attractiveness, but this is difficult to do. It seems likely that certain students' ratings were enhanced or reduced by cleanliness, grooming, quality of clothing, and other factors related to the SES and general lifestyle of their families. Consequently, we did expect some positive relationships between physical attractiveness and the other student attributes examined in the study, although we expected that attractiveness would be one of the weaker variables. Furthermore, we expected that attractiveness would correlate more consistently in the perception data than in the observational data, because the correlates of attractiveness that we expected to influence perceptions were not expected to influence classroom interaction much, if at all.

In summary, our main interest in examining the data for happy versus unhappy was to see if students consistently perceived as happy showed generally positive dispositions and popularity with teachers and peers. Our major interest in studying unhappy students was to see the degree to which they elicited pity versus rejection from teachers and peers. In examining attractive versus unattractive students, we wanted to see if physical attractiveness did affect perceptions to any significant degree, and also if students' physical attractiveness related to their classroom behavior or their interactions with teachers.

Happy

Teacher rankings of student happiness correlated only .30 with observer ratings of happiness, indicating less agreement on this scale than on most scales. However, the patterns of correlation with other scales were similar for teachers and for observers, except that the correlations for observers were lower. Among the teacher rankings, happy correlated most highly with persistence, attachment, and eye contact, and it showed a generally positive halo pattern. It also showed a positive halo pattern for observers, but the highest correlations were with achieving, creative, and eye contact. Thus, both groups observed that eye contact is one consistent correlate of perceived happiness.

The partial correlations for the teacher data indicated significant correlations between happy and cooperative, attractive, persistent, noticeable, and eye contact, even with the other 11 scales held constant for each analysis. This indicates that perceptions of happiness were based largely on the

personal attributes of the students. They were not significantly affected by general intelligence or achievement. The happy students were seen as cooperative and persistent, but not as particularly calm, careful, mature, achieving, or creative.

Adjective Description Variables

Significant group effects were obtained for 10 of a possible 37 teacher variables and for five of a possible 31 observer variables (see Table 13-1). The seven variables which had data for both groups indicated clear agreement on three, minor disagreement on three others, and disagreement on the seventh.

Both teachers and observers agreed in seeing happy students as more helpful and as better workers, and both groups had higher total percentages of positive statements made about happy students. Reversed patterns appeared in each case for unhappy students. These data provide some validity for the teacher perceptions of happy students as cooperative and persistent.

Minor disagreements were seen for intelligent, responsible, and temperamental. In each case, happy students were ranked highest on intelligence and responsibility, and lowest on temperamental. However, whereas teachers had unhappy students ranked at the opposite end of each of these three descriptors, observers had unhappy students ranked in the middle.

No relationships were expected for intelligence or responsibility, but the relationship seen in the teacher data for temperamental was expected. Most of the descriptors included in the temperamental category are traits associated with unhappiness, so that it was not surprising that happy students ranked lowest here.

Data available for only one of the two groups indicated that teachers saw happy students as better motivated, as more likely to come from good homes, and as absent less often, and observers saw them as more popular with their peers and as having better relationships with their teachers. All of these relationships make sense. Perhaps the biggest surprise is the absence of a significant relationship in the teacher data for popularity. Happiness was expected to related strongly to peer popularity.

The primary disagreement is for social leadership. Teachers saw happy students as most likely to be leaders, and unhappy students as least likely to be leaders. Observers did not have a significant group effect for social leadership. They did agree with the teachers in ranking unhappy students lowest, but happy students were ranked in the middle. In general, the observer data seem to make more common sense than the teacher data. Happiness would be more likely to be related to popularity than to leadership, to the extent that these two social traits differ. However, the differences that did appear all make sense for comparisons of happy with unhappy students.

Checklist Variables

All six of the checklist variables showed significant group effects for happy (see Table 13-2). Happy students were described as having good peer relations, and unhappy students were least likely to be described this way. The opposite was true for bolsterous and disruptive behavior, passive and unemotional behavior, poor peer relations, low self-esteem, and clumsiness, and lethargy. For all of these variables, unhappy students had the highest scores and happy students had the lowest scores.

The data on passivity, good and poor peer relations, and self esteem all fit expectations based on previous knowledge about happiness. The data for boisterous and disruptive behavior indicate that happy students were active but in controlled and socially appropriate ways, bearing out the adjective description data. Finally, the data for clumsiness and lethargy raise the interesting possibility that happy students were more energetic and better coordinated than other students.

Assuming that these perceived relationships are real, they suggest that physical energy and coordination factors related to social attractiveness may also be related to general happiness. The data suggest that the big difference here is between the students persistently conceived as very happy versus both the students perceived as unhappy and those perceived as medium in general happiness. Thus, the relationships suggest that freedom from lethargy or clumsiness is related to consistent happiness, but not necessarily that clumsiness or lethargy are related to consistent unhappiness.

Classroom Observation Data

Significant group effects for happy were obtained for 39 of a possible 156 classroom observation variables. For many of these, happy students scored at one end, students seen as medium in unhappiness scored in the middle, and unhappy students scored at the other end of the distributions. However, for many other classroom observation variables, the significant group effect occurred because the unhappy students were seen as considerably different from both other groups. Thus, many of the significant group effects for happy were due primarily to the classroom behavior of the unhappy students rather than to the happy ones.

1. Total Response Opportunities. Happy students had more response opportunities than average, and unhappy students had notably fewer (139). Consequently, the proportion of total contacts with the teachers which occurred during public response opportunities was high for the happy students and low for the unhappy ones (1).

Conversely, the percentage of work contacts which were private was especially high for the unhappy students (37), and this effect was exaggerated a little when approval seeking contacts were included (38). Apparently, the unhappy students were less likely to volunteer to respond in public response opportunity situations.

The next two significant group effects in this set indicate that the teachers were trying to compensate for the problems bothering unhappy students by treating them more positively. The teachers were particularly unlikely to criticize these students for poor responses in public response opportunity situations, while their criticism rate for happy students was slightly above average (33). Also, when the teachers called on unhappy students as non-volunteers, and if the students responded correctly, they were much more likely to receive praise than happy students were (34). Thus, even though unhappy students did not respond as often in public response opportunity situations, they were more likely to be praised when they responded correctly and less likely to be criticized when they made a poor response.

2. Response Opportunities in General Class Activities. Happy students had more and unhappy students had somewhat fewer response opportunities in the general class context (14), and a greater percentage of the response

opportunities of happy students came in the general class context rather than in small groups (3). The main reason for this was that unhappy students did not volunteer to respond often (21). However, they did get more response opportunities by calling out answers (27), perhaps because the teachers were more tolerant of call outs from these students because of their desire to be supportive and encouraging toward them.

When unhappy students were called on as non-volunteers in the general class context and succeeded in answering correctly, they were especially likely to be praised (19). This is similar to the finding mentioned in the previous section, and it extends the pattern observed so far which indicates that the teachers were especially kindly in their interactions with unhappy students.

3. Response Opportunities In Small Group Activities. Happy students got a smaller percentage of their total response opportunities during small groups (2), essentially because unhappy students did not volunteer to respond in whole class settings (21). Unhappy students also did not volunteer often in small group settings (7), although they did get a relatively high percentage of response opportunities in small groups by waving their hands and seeking response opportunities vigorously when they did choose to volunteer (10). This is the same pattern seen for several other scales, and it suggests that the teachers adjusted their own behavior to compensate for differences among the students. Specifically, because unhappy students did not volunteer very often, and because the teachers apparently wanted to go out of their way to encourage them, they seemed to be more lenient in allowing them to get

response opportunities through handwaving and even call outs. They also were more likely to praise them and less likely to criticize them.

4. Private Work Contacts. Of the total number of private contacts with teachers, a greater percentage of those involving happy students were initiated by the students themselves, and a lesser percentage involving unhappy students were initiated by the students (97). Thus, unhappy students were less likely to approach teachers privately, in addition to being less likely to volunteer for public response opportunities.

The proportions of total private work contacts involving praise for good work (132) and criticism for poor work (133) both were higher for unhappy students. Thus, although the teachers again seemed to be going out of their way to praise unhappy students when they got opportunities, they also gave these students more criticism for poor work despite perceiving them as unhappy. The teachers were especially likely to criticize unhappy students for poor work in private contacts that the teachers initiated themselves (42).

This suggests that unhappy students were not very successful in their work. Criticism in teacher initiated work contacts usually comes in response to inattentiveness, sloppiness, or other forms of poor work which result because the student's is "at fault." Perhaps the unhappy students were daydreaming instead of working (although the adjective description data did not show a significant group difference on daydreaming). In any case, these criticism measures indicate that the unhappy students were not doing their seatwork assignments correctly or efficiently.

The percentage of private work contacts which involved mere observation by the teacher without any verbal interaction was especially low for unhappy students (145), indicating that the teachers usually felt it necessary to say something to these students when they observed them working on their assignments. Also, teachers initiated private work contacts with unhappy students especially often (143). These data again indicate that the unhappy students were not applying themselves well, or at least were not working successfully, compared to other students. The teachers responded by checking the work of these students more often and apparently more intensively.

5. Private, Non-Work Contacts. The teachers initiated more private contacts with the unhappy students and fewer with the happy students (142), especially contacts concerned specifically with work (143). However, a small proportion of the contacts that teachers initiated with unhappy students were to request help with housekeeping tasks, while a relatively large proportion of these teacher initiatives were directed to happy students (48). These data are reminiscent for those seen with the achieving and persistent scales. They indicate that the teachers felt it necessary to initiate more interactions with the unhappy students to inspect their work, but that when they needed a housekeeping chore done, they were unlikely to ask unhappy students to do it.

There were several group effects among variables concerned with student initiated private contacts. First, happy students initiated more housekeeping contacts with the teachers, and unhappy students initiated fewer (157).

It is interesting that these data on housekeeping do not show the balance

that typically is seen for other scales, where groups higher on student initiation are lower on teacher initiation, and vice versa. Apparently, unhappy students were not concerned about the low frequencies with which the teachers asked them to do housekeeping tasks. In fact, they came to the teachers less often than average to request permission to do these things. Perhaps they were wrapped up with their own troubles. In any case, unhappy students did not often request permission to do housekeeping tasks, and teachers did not request them to do such tasks often, either.

Of the private interactions that unhappy students initiated with the teachers, a greater than average proportion were for personal reasons (119), and a smaller than average proportion were for work or approval seeking (112) or for housekeeping requests (113). These data suggest that unhappy students sought out teachers only when they needed to for some reason. Otherwise, they showed little interest in doing things for the teachers, or in getting permission to do housekeeping tasks. This pattern suggests that unhappy students were self-preoccupied, or, at least, that they were disinterested in the teachers.

Even so, the proportion of private contacts with teachers initiated by unhappy students which led to some form of reward from the teacher was high, compared to the proportion for happy students (124). Along with data reviewed earlier, this effect indicates that the teachers were trying to reach these unhappy students, even though there is no evidence that their efforts were particularly successful or even appreciated by the students.

6. Behavior Related Contacts. Unhappy students had high rates of behavior related contacts with the teachers, compared to other students (147, 60). Furthermore, unhappy students had higher percentages of misbehavior which involved aggression or defiance of the teacher (64), they more often reacted sullenly when disciplined (76), and they had more behavioral contacts of a negative nature (74). Thus, unhappy students were not merely disinterested in the teachers' they sometimes were hostile and aggressive toward them.

Probably as a result, the teachers responded negatively to their misbehavior. Unhappy students got more behavioral warnings (71, 80, 83), more threats (72), and more criticism and punishment (87), particularly when their misbehavior was disruptive. In contrast, happy students were below average on all of these variables. Thus, unhappy students were negativistic toward the teachers, and they elicited negativistic teacher responses, even though the teachers recognized that they were unhappy.

In contrast, happy students were especially likely to be praised for good behavior (68). They also had a better than average percentage of behavioral contacts involving positive reinforcement from the teacher, whereas unhappy students had a notably low percentage (77).

These behavioral data contrast sharply with the data relating to response opportunities and work. Despite low rates of volunteering to respond and low frequencies of initiation of contacts with the teacher for purposes of discussing work, unhappy students received more praise and encouragement when they did something well in addition to receiving more criticism for poor work. So long as interactions were centered on academic work, the teachers maintained a positive stance toward unhappy students. They even seemed to be going out of their way to try to reach them through praise

and encouragement. However, when the teachers interacted with these students because the students had misbehaved, they showed much more negative behavior and less positive behavior. The general pattern of findings suggest that the teachers were vexed by these unhappy students, who not only avoided them, but tended to abuse or defy them when they did interact with them.

Summary for Happy

The perception data indicate that happy students were popular with their peers and active in the classroom, but active in socially approved ways. In addition to having cheerful dispositions and being popular among their peers, they were good students who tended to work carefully, persist at their work, and obey the teachers. Despite this generally positive pattern of attributes, though, there was little evidence of teacher favoritism of happy students. However, they were praised more often for good behavior, and they received positive reinforcement from the teachers more often.

Unhappy students were perceived as passive, unpopular, and low in self esteem, and the observational data indicated that they were alienated from teachers and schoolwork. They seldom volunteered to respond in public response opportunity situations, and they did not often initiate interactions with the teachers to discuss work. In fact, they generally avoided the teachers except when they needed to get permission or assistance with a matter of personal concern. Furthermore, the data on private work contacts indicated that these students were monitored carefully and criticized often because of poor work, and behavioral data indicated that they misbehaved both more

often and more intensely, sometimes even defying the teachers. Perhaps as a result, they were especially likely to be warned, threatened, criticized, or punished for misbehavior than students in general and happy students in particular.

The teachers seemed to be modifying their behavior to try to compensate for the unhappiness they perceived in these students. In public response situations and private work interactions, they generally were successful in doing so. However, the frequency and intensity of misbehavior that these students showed apparently was too much for the teachers to accept. Their behavior related interactions with unhappy students frequently involved negative responses.

Attractive

Teacher rankings and observer ratings on attractive correlated .34, indicating only modest agreement. Correlations of the attractive scale with other scales showed similar patterns for both groups, but these correlations were generally low, even for the teachers. In general, students perceived as attractive were perceived in the more desirable direction on the other scales, and the reverse was true for students perceived as unattractive. The partial correlations for the teachers indicated that attractive students also were seen as careful, happy, creative, noticeable, and, surprisingly, immature. They also were especially likely to be objects of teacher attachment. These relationships suggest a certain degree of halo effect. Even though the attractive scale correlated negatively with mature, there is no obvious reason why students perceived as attractive should be perceived as more careful or more creative as well.

Taken together, the ranking and rating data for attractive suggest that attractiveness did form part of a generally positive halo. However, the relationships between this scale and the others were notably weaker than average, even for the teacher data. Thus, attractiveness did have some effect upon general perceptions, but this effect was not particularly strong.

Adjective Description Data

Significant group effects for attractive appeared for 11 of a possible 37 teacher variables and five of a possible 31 observer variables (see Table 13-3). In most cases where significant group effects appeared, the unattractive students stood out from the other two groups.

Nine variables showing at least one significant group effect had data for both teachers and observers. These produced five agreements, two mild disagreements, and two clear disagreements. The teachers and observers agreed in seeing attractive students as being more intelligent, better workers, more athletic, and more attractive than the unattractive students. Both groups also had higher percentages of positive statements made about the attractive students. The differences on athletic and attractive make sense, but there is no obvious reason why attractiveness should be associated with intelligence or work habits.

Data available for teachers but not observers indicated that the teachers also saw attractive students as being higher achievers and unattractive ones as more likely to have medical problems and more likely to be absent. Again, the data on medical problems and absence makes sense, but there is no obvious reason why attractiveness should be related to achievement. However, this

perception does fit with the perceptions of relationships with intelligence and work habits, and these appeared in the observer data as well as the teacher data.

Mild disagreements between teachers and observers were seen for happy and inattentive. The teachers saw attractive students as likely to be happy and unattractive students as especially likely to be unhappy. There was no significant group effect in the observer data, although the mean on happiness was lowest for the unattractive students here, too. The mean for the attractive students was not highest, however. These data indicate that both teachers and observers saw notably unattractive students as likely to be unhappy, although there was disagreement about whether notably attractive students were any happier than average.

A similar pattern appeared for perceptions of inattentiveness. There was a significant group effect in the observer data, in which the least attractive students were seen as mostly likely to be inattentive. There also was a significant group effect in the teacher data, and again the least attractive students were seen as most likely to be inattentive. However, the teachers saw the most attractive students as most likely to be attentive, but the observers did not. Again, the teachers and observers agreed concerning unattractive students, seeing them as especially likely to be inattentive as well as unhappy.

Disagreements appeared for aggressive and for "other negative" descriptions. The teachers had a significant group effect for aggressive. They saw unattractive students as least aggressive and students of medium attractiveness as most aggressive. There was no significant group effect in the observer data, and the only point of agreement was that the observers

also saw the students of medium attractiveness as most likely to be aggressive. Basically, there is a disagreement here, with the teachers seeing unattractive students as aggressive where the observers did not. This may reflect halo effect in the teacher perceptions, although unattractive students might actually be more aggressive toward their peers, if they were teased or rejected and reacted to this with aggression.

The other disagreement was for the "other negative" descriptions. Teachers had a significant group effect here, caused mostly by a tendency to use these negative descriptions more often in speaking of unattractive students. The observers did not have a significant group effect, but they used these negative descriptors most often to describe the attractive students and least often to describe the unattractive students. This disagreement does indicate halo effects in the teachers' perceptions a little more clearly.

In general, attractive students were perceived positively on other attributes and unattractive students were perceived negatively. However, most differences were due to perceptions of the unattractive students, and most of these made sense, given the relationships involved.

Checklist Variables

There was no group effect for attractiveness on the measures of boisterous and disruptive behavior, indicating that unattractive students were no more likely to misbehave than other students (see Table 13-2). However, significant group effects appeared for the other five checklist variables. These indicated that unattractive students were seen as more passive and unemotional, more likely to have poor peer relations, more likely to have

low self esteem, and more likely to be clumsy and lethargic. In contrast, attractive students were seen as more likely to have good peer relations.

These data indicate that the observers saw attractive students as more popular, more self confident, and more energetic and better coordinated than unattractive students. These findings are a little surprising. They suggest that attractiveness might be of more general importance than we had expected. On the other hand, the data might just indicate halo effects in the observer perceptions.

Findings concerning clumsy and lethargic received some support from the adjective description variables "athletic" and "attractive," but the perceptions concerning peer relations were not supported by adjective description findings for popularity or social leadership. Also, the perceptions of passivity were not supported by adjective description findings for active. Thus, there is reason to believe that these checklist data contain significant halo effect, and that they represent inferences by the observers rather than objective observations.

Classroom Observation Variables

The interpretation of halo effect in the perception data is supported by the fact that significant group effects were observed for only 10 of a possible 159 classroom observation variables. This is about equal to the eight significant effects expected by chance alone. Thus, we had expected, perceptions of attractiveness interrelate much more strongly and consistently with other perceptions than they do with objectively measured behavior. Even though the numbers of significant group effects in the behavior data were

barely above chance levels, we will review them to discuss patterns.

1. Total Response Opportunities. Attractive students had more total response opportunities, and unattractive students had fewer (139). However, the percentage of response opportunities which led to criticism from the teacher was higher for attractive students and lower for unattractive students (33). Thus, teachers were quicker to criticize attractive students for poor responses, even though they responded more often.

2. Response Opportunities in General Class Activities. None of these variables showed a significant group effect. Attractive and unattractive students did not differ in the frequencies with which they volunteered to answer questions in public response opportunity situations or in the kinds of feedback and evaluational responses that they got from the teachers.

3. Response Opportunities in Small Group Activities. The only significant group effect here indicated that the teachers called on unattractive students as non-volunteers more often than average, and called on attractive students as non-volunteers less often than average (4). This probably means that attractive students volunteered more readily than unattractive students. In general, the data for public response opportunities produced only three significant findings. These indicated that attractive students were a little more likely than unattractive students to volunteer to answer questions or to recite, and that the teachers were more likely to criticize poor responses from attractive students (33).

4. Private Work Contacts. The only significant group effect here was for negative evaluations of work which occurred in interactions initiated by the teachers. This happened more often for unattractive students and less often for attractive ones (162). This may have been due to a real difference in the quality of work between the groups (recall that the teachers perceived unattractive students as less intelligent, less achieving, less attentive, and less likely to work steadily).

5. Private, Non-Work Contacts. This section produced five significant group effects. The teachers initiated more work contacts (143) and more personal contacts (145) with unattractive students than attractive students. This indicates that they saw unattractive students as more in need of monitoring and supervision, both concerning their work on assignments and concerning self-care responsibilities. Not surprisingly, a greater proportion of the teacher initiated contacts with attractive students concerned housekeeping requests, and a smaller proportion of teacher initiated contacts with unattractive students involved such requests (48).

The two remaining differences concerned acceptance and rejection of tattling by students. In both cases, students perceived as medium in attractiveness differed from both the attractive and the unattractive students. Students ranked in the middle of the attractiveness scale were unlikely to have their tattles approved and more likely to have them rejected (126, 127). The opposite was true for both attractive and unattractive students. The finding for attractive students makes sense, if they were in fact more intelligent and thus probably more able to tattle "appro-

prately" (in the eyes of the teachers). However, the data for unattractive students do not make sense, given the general pattern of findings for tattling. If anything, we would expect unattractive students to be rejected more often and approved less often, rather than vice versa. Given that significant relationships for attractive versus unattractive students appeared at only about a chance level and do not fall into a clear pattern, this difference is perhaps best left uninterpreted.

6. Behavior Related Contacts. Only one significant group effect appeared here: the teachers were more likely to warn unattractive students when they misbehaved (71), and less likely to warn attractive students. The pattern of non-significant group relationships for other forms for teacher intervention when students misbehaved does not suggest any simple interpretation of this effect, so again, we will leave it uninterpreted.

Summary for Attractive

Teacher and observer perceptions of attractive and unattractive students followed a general halo pattern. In particular, unattractive students were perceived in the negative direction on a number of variables, some of which made good sense and some of which did not. Several of the teacher adjective descriptions of unattractive students were not supported by observer adjective descriptions or by any other data, and several of the group effects in the observer checklist variables were not supported by the classroom observation data. In general, as we expected, perceived attractiveness related more often and more systematically to other perceptions than it did to observed behavior. The number of significant group effects in the observational data

barely exceeded chance expectations, and the 10 effects which did appear did not form interpretable patterns.

Conclusion

Most of the significant relationships for happy and attractive were due to the scores for the unhappy and unattractive students. These typically were in the undesirable direction when significant effects appeared, although there were some exceptions. The means for happy and attractive students typically differed from the general mean for all students in the desirable directions, but they usually were closer to the general mean than the scores for unhappy and unattractive students were.

Unhappy students were seen as low in helpfulness, motivation, work habits, popularity, and teacher relationships, and they were seen as absent more often and as less likely to come from good homes. They also were seen as more likely to be bolsterous and disruptive, passive and unemotional, low in self esteem, clumsy and lethargic, and as having difficulties in peer relationships.

The behavioral data indicated that unhappy students were alienated from the teachers as individuals and from school as an institution. They seldom volunteered to answer questions, seldom approached the teachers for any reason other than personal concerns, and often misbehaved. Furthermore, when they did misbehave, they often did so in aggressive and defiant ways.

Teachers responded well to these stresses in work related interactions, going out of their way to praise unhappy students for good work or good answers when they got an opportunity, and generally trying to be patient and encouraging with them. However, their relationship with these students in behavior related interactions were completely negative in emotional tone. They were more likely to warn, threaten, criticize, and punish these students for misbehavior, especially disruptive or defiant misbehavior.

We began the chapter by noting that a question of major interest was whether teachers would respond to unhappy students with pity or with hostility. The answer seems to be "some of both." The teachers seemed to be trying to be patient and reinforcing with these students whom they recognized as unhappy, even though they were difficult students to deal with. They were reasonably successful at doing this when they were interacting with the students in work related contexts. However, the defiant types of misbehavior that these students provided apparently were too much for the teachers to accept, so they reacted angrily to such behavior, even though at other times they tried to be pleasant, and even though they recognized that these students were unhappy. This is a good example of student effects on teachers, in that the teachers appeared driven to behave in ways that they did not want to behave by the persistent and intense pressures exerted by these unhappy students.

The findings for perceptions of attractiveness generally conformed to our expectations. Attractiveness formed part of the general halo of perceptions. Attractive students were likely to be perceived positively on other traits, and unattractive students were likely to be perceived negatively on other

traits. However, the relationships of perceived attractiveness were more numerous and more consistent with other perception data than they were with classroom observations. In fact, the number of significant findings in the observational data barely exceeded chance, and they did not form interpretable patterns of clusters. Thus, physical attractiveness apparently is not relevant to student behavior in the classroom or to the quality of teacher-student interaction, even though it relates systematically to other adult perceptions.

The findings for attractive provided an especially good example of halo effect. The teacher rankings, observer ratings, adjective descriptions, and checklist data all showed "logical" relationships between perceived attractiveness and other perceptions, but these were not supported by the objective observations. In particular, there was little support for the perceptions of attractive students as more intelligent and higher achieving than unattractive ones, although the few group effects relevant to these perceptions were consistent with these perceptions. However, there was no generalized pattern of differences in the behavioral data to suggest that attractive students were significantly better workers or higher achievers than unattractive students.

The perceived differences in popularity, peer relationships, and self esteem also were not supported in the classroom data, but few of these data were directly relevant to these perceptions. Consequently, the perceptions may well be correct. However, the unusually high halo effect component in the attractiveness perceptions should be kept in mind. It may be that these perceptions reflect what teachers or observers think attractive or unattractive students should be like, rather than what they actually are like.

Table 13-1. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Happy Scale.

Adjective Descriptions	TEACHERS Groups				OBSERVERS Groups			
	Low	Med	High		Low	Med	High	
5. Helpful	3	<u>2</u>	<u>1</u>	***	3	2	1	
8. Motivated	3	2	<u>1</u>	**	-	-	-	
9. Intelligent	3	2	1	**	2	3	<u>1</u>	**
11. Good Worker	3	<u>2</u>	<u>1</u>	*	3	<u>2</u>	<u>1</u>	**
12. Popular	-	-	-		3	<u>2</u>	<u>1</u>	**
14. Responsible	3	2	<u>1</u>	*	2	3	1	
18. Temperamental	<u>1</u>	2	3	*	1	3	2	
24. Social Leader	3	2	<u>1</u>	*	3	1	2	
28. Good Home	3	2	<u>1</u>	***		NA		
31. Often Absent	<u>1</u>	2	3	**		NA		
37. Good Teacher Relations		NA			3	2	<u>1</u>	**
40. % Positive	3	<u>2</u>	<u>1</u>	***	3	2	1	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 13-2. Rank-Ordering of Group Means on Behavior Checklist for
Students Perceived Consistently on the Happy and Attractive
Scales.

<u>Adjective Descriptions</u>	<u>Happy</u>				<u>Attractive</u>			
	<u>Low</u>	<u>Med</u>	<u>High</u>		<u>Low</u>	<u>Med</u>	<u>High</u>	
1. Boisterous, disruptive	1	2	3	***		NA		
2. Passive, unemotional	<u>1</u>	2	3	*	1	2	3	**
3. Good peer relations	3	2	<u>1</u>	***	3	2	1	***
4. Poor peer relations	1	2	3	**	1	3	2	***
5. Low self-esteem	<u>1</u>	<u>2</u>	3	***	<u>1</u>	2	3	***
6. Clumsy, lethargic	<u>1</u>	<u>2</u>	3	*	<u>1</u>	2	3	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 13-3. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Attractive Scale.

<u>Adjective Descriptions</u>	<u>Teachers Groups</u>				<u>Observers Groups</u>			
	<u>Low</u>	<u>Med</u>	<u>High</u>		<u>Low</u>	<u>Med</u>	<u>High</u>	
3. Happy	3	<u>2</u>	<u>1</u>	*	3	1	2	
9. Intelligent	3	2	1	***	3	<u>2</u>	<u>1</u>	***
10. Achieving	3	<u>2</u>	<u>1</u>	**	-	-	-	
11. Good Worker	3	2	1		3	<u>2</u>	<u>1</u>	**
13. Aggressive	1	3	2	*	3	1	2	
17. Inattentive	1	2	3	*	<u>1</u>	3	2	*
20. Athletic	3	2	<u>1</u>	*	3	2	1	
22. Other Negative	<u>1</u>	3	2	**	3	2	1	
26. Attractive	3	<u>2</u>	<u>1</u>	**	3	<u>2</u>	<u>1</u>	**
30. Medical Problems	1	2	3	*		NA		
31. Often Absent	<u>1</u>	2	3	*		NA		
40. $\frac{1}{2}$ Positive	3	<u>2</u>	<u>1</u>	***	3	<u>2</u>	<u>1</u>	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

In this chapter, we will discuss the correlations for the noticeable and eye contact scales. Both of these scales involve student attributes that increase or decrease their salience, or the degree to which they "stand out from the crowd," relative to their classmates.

As mentioned previously, some students ranked consistently as noticeable sometimes were ranked high on this scale because they were exceptionally outstanding students. Others were ranked high on the scale because they were very active and likely to come to the teachers' attention because of misbehavior. Consequently, high rankings on this scale were ambiguous in their implications.

Students ranked low on this scale were especially interesting to us, because this meant that teachers agreed in stating that they were not very noticeable, even though they were present just as much as other students. Consistent low rankings on noticeable raise the question of whether such students have particular defining attributes that make them "fade into the background." Most probably, what distinguishes these students from others is not so much their positive attributes as attributes that they do not have. This question will be discussed in the present chapter. Also, it is worth bearing in mind that the students ranked consistently low on noticeable probably were similar to those studied here and elsewhere who were ranked low on teacher concern.

• Eye contact proved to be a very interesting scale. It had poor variance and distribution of scores compared to the other scales, because most students had good eye contact. Consequently, most results from this scale were due to the minority of students who shied away from eye contact with the teachers.

Nevertheless, this scale produced an interesting number and variety of findings, indicating that eye contact (or, more specifically, avoidance of eye contact) correlated systematically with a number of other student attributes.

Noticeable

Teacher rankings and observer ratings on noticeable correlated .43, indicating generally good agreement². However, despite this, the patterns of correlations with other scales differed more for noticeable than for the other 12 scales. This was because noticeable was a more important scale for the observers than for the teachers, primarily because the observers had only five opportunities to observe in each classroom. Consequently, the degree to which students were noticeable made a big difference in the amount and quality of information that observers were likely to have about them.

For both teachers and observers, noticeable had a mixed pattern of correlations with other scales. This contrasts with the general "halo pattern" found for the other 12 scales. In the teacher correlations, none of the coefficients were high, but noticeable related most strongly to happy, achieving, creative, and eye contact (all positively). Other coefficients were positive but small, except for the relationships with calm and concern, which were negative. For observers, noticeable correlated negatively with calm and cooperative, indicating that the students most noticeable to the observers were those who were active and likely to misbehave. This contrasts with the students most noticeable to the teachers, most of whom were noticeable for more positive reasons.

Partial correlations for the teacher data revealed positive correlations between noticeable and happy, achieving, creative, attractive, and eye contact, and negative correlations with calm and cooperative. This mixed pattern reflects the point made above: some students were consistently perceived as noticeable by the teachers for primarily positive reasons, while others were consistently perceived as noticeable for primarily negative reasons. This mixed pattern also can be seen in the adjective description variables.

Adjective Description Variables

Significant group effects for noticeable were obtained for 13 of a possible 37 teacher variables and for 11 of a possible 31 observer variables (see Table 14-1). For the 13 variables for which data were available for both groups, the teachers and observers clearly agreed on seven, disagreed slightly on four, and disagreed clearly on two.

Teachers and observers agreed in seeing the noticeable as sociable, happy, confident, intelligent, active, and humorous. Students ranked low on noticeable were low on these variables, but more likely to be described as quiet. Except for intelligent and confident, these variables concern temperament and social interaction. This suggests that the differences between noticeable and less noticeable students were most clear in situations in which the students were not involved in lessons or organized activities, where structure and roles tend to limit individual differences. Instead, differences showed up most clearly in seatwork and independent activity contexts, when noticeable students were more active and sociable and less noticeable students were quieter.

Data available on only one of the two groups indicated that teachers saw the noticeable students as higher achievers, although they did not see the least noticeable students as low achievers. The teachers also saw noticeable students as likely to be creative and to be social leaders, and as unlikely to be absent often. The data for the less noticeable students were reversed on these three descriptors.

The observers indicated that the least noticeable students were among the worst behaved. There was no parallel group effect on this variable for the teachers, indicating that classroom behavior was not an important consideration for teacher rankings on the noticeable scale. Also, the observers indicated that students rated high or medium on noticeable were more likely to be bossy in their social interactions than students rated low. These findings reinforce the general impression that ratings on noticeable were based primarily on social interaction with peers. In addition, the observers apparently took into account classroom conduct more than the teachers did.

Mild disagreements were seen for aggressive, considerate, unobtrusive, and total percentage of positive descriptors. The teachers had a significant group effect for aggressive, placing the noticeable students highest and the least noticeable students lowest. The observers did not have a significant group effect. They agreed in placing the least noticeable students lowest, but the most noticeable students ranked in the middle on their descriptions of aggressiveness. Thus, there was agreement that least noticeable students were not aggressive.

A similar result appeared for considerate. Here, the observers had a significant group effect caused primarily by frequent descriptions of the

least noticeable students as considerate. The most noticeable students were least likely to be described as considerate by the observers. In contrast, the teachers did not have a significant group effect here, and although they agreed in describing the least noticeable students as considerate, the most noticeable students ranked second rather than third. Again, there was agreement that the least noticeable students were likely to be considerate as well as unlikely to be aggressive.

While teachers and observers agreed in describing the least noticeable students as unobtrusive, the teachers did not have a significant group effect. Also, the most noticeable students ranked in the middle rather than at the bottom in their descriptions of students as unobtrusive. These minor disagreements were part of a general pattern suggesting that most of the differences for the noticeable scale were due to differences between the students who were least noticeable as compared to those who were middle or high on noticeable.

The final partial disagreement occurred for the total percentage of positive statements. This was highest for both groups for the noticeable students, although a significant group effect appeared only in the teacher data. Furthermore, the percentage of positive statements made by teachers was next highest for the least noticeable students. The group means for students ranked middle and low on noticeable were reversed in the observer data. Thus, the two groups agreed only in making higher percentages of positive statements about the most noticeable students. They disagreed about the least noticeable students, most probably because they paid the least attention to these students.

More clear disagreements were seen for the "other negative" and "other positive" categories. There was a significant group effect in the "other negative" descriptors of the observers, who used these miscellaneous negative descriptions most often to describe the noticeable students and least often to describe the least noticeable students. This effect was significant for the observers, and it indicated that they saw many negative qualities in noticeable students, compared to the others.

In contrast, the teachers showed no significant group effect here, and the noticeable students had the highest mean for "other negative" descriptors. Teachers did agree in using this category least often for the less noticeable students, however.

For "other positive" descriptors, the teachers had a significant effect indicating that they used such descriptors more often for students ranked high and middle on noticeable, and least often for those ranked low. The observers did not have a significant group effect, but the means contrasted with those for the teachers. The observers were most likely to use "other positive" descriptors in discussing the least noticeable students, followed by the most noticeable students.

As with most other adjective description data, the disagreements between the teachers and observers were relatively minor, but the ones that did exist suggest greater halo effect in the teacher perceptions. In this case, the teachers perceived the noticeable students more positively than the observers did, although there was good agreement between the two groups in seeing the least noticeable students as relatively unsociable, unhappy, quiet, lacking in confidence, relatively unintelligent, not aggressive, not active, unobtrusive,

and not humorous. Except for considerate, these all are essentially passive qualities, confirming our expectation that students ranked low on noticeable would be ranked low because of what they did not do rather than because of what they did do.

Checklist Variables

Significant group effects for noticeable appeared on five of the six scales, all except poor peer relations (see Table 14-2). Noticeable students were seen by the observers as boisterous and disruptive and as having good peer relations. The least noticeable students were lowest on these variables. In contrast, the least noticeable students were highest on passive and unemotional, low self-esteem, and clumsy and lethargic, with the noticeable students lowest. The findings for disruption, passivity, peer relations, and lethargy all make good sense, although they only confirm what already was suspected: students who are not very noticeable are not very active.

The findings for self-esteem are a little more interesting. They suggest that the less noticeable students were not merely passive, but also were lacking in self-esteem. That is, their passivity might reflect inhibition rather than mature independence. We checked the observational data to see if they indicated anything about this possibility.

Classroom Observation Data

Significant group effects for noticeable were obtained for 36 of a possible 157 variables. The pattern in the observational data was the same as in the perception data: many of the group effects appeared because the

students who were least noticeable differed from those ranked medium or high on the noticeable scale.

1. Total Response Opportunities. Noticeable students had more, and the less noticeable students had fewer, contacts with the teachers (164), and the same was true for contacts which were public response opportunities (139). Thus, noticeable students were more active in interacting with the teachers, both in public and in private situations. As a result, the teachers had to initiate a greater percentage of the interactions that they did have with the least noticeable students, whereas the most noticeable students were more likely to come to them (36). They also appeared to be trying to encourage the least noticeable students to participate more actively, because they praised more of their volunteered correct answers (32) and criticized fewer of their poor answers (33). Praise of correct answers by noticeable students was about average, but they were likely to be criticized more often than average for giving poor answers (33). Thus, the teachers appeared to be trying to compensate for student differences in participation in classroom activities by initiating more interactions with the least noticeable students and by being more encouraging and reinforcing with them when they did interact.

2. Response Opportunities in General Class Activities. Given their pattern of inactivity, it is not surprising that a greater proportion of the response opportunities of the least noticeable students occurred in the small group context rather than in general class (2, 3). The frequency of public response

opportunities in the general class context was particularly high for the noticeable students and low for the least noticeable students (141).

Again, the teachers appeared to be compensating by trying to stimulate the least noticeable students to be more active. They called on them more frequently, and called on the noticeable students less frequently, as non-volunteers in general class situations (18). However, even though the teachers probably would have been more tolerant of call outs from the least noticeable students, these students apparently rarely called out answers. The noticeable students had very high rates, and the least noticeable students low rates, of general class response opportunities which were obtained by calling out answers (27). These data provide another example of how teachers were unsuccessful in compensating significantly for student differences, even when they were aware of them and apparently actively trying to do something about them.

3. Response Opportunities in Small Group Activities. The least noticeable students got a greater proportion of their response opportunities in small groups (2). This difference is due to differences in volunteering and calling out in the large group context. The teachers also called on the least noticeable students as non-volunteers more often in small groups, and they did this less often with the most noticeable students (4). Also, the teachers were more likely to criticize poor answers by the noticeable students and less likely to criticize the less noticeable students in small groups (17).

The data indicate that the least noticeable students were especially inactive in public response opportunity situations. The teachers tried to compensate for this by calling on them as non-volunteers more frequently, by

praising them more often, and by criticizing them less often. This did not equalize participation rates, however.

4. Private Work Contacts. A greater proportion of the work contacts that teachers initiated with noticeable students included criticism for poor work, and a lower proportion of such contacts with less noticeable students included criticism (160). Conversely, a greater proportion of the work contacts that the least noticeable students had with teachers involved praise from the teachers (132). Here again, are indications that the teachers were trying to be positive and encouraging toward the least noticeable students, apparently in an effort to get them to participate more often.

A greater percentage of the contacts that the least noticeable students initiated with the teachers were for work related purposes, and a lower percentage of such contacts initiated by the most noticeable students were for work related purposes (98). This indicates that the noticeable students came to the teachers frequently for a variety of reasons, but that the less noticeable students tended to come to the teachers primarily to discuss work.

The teachers did not come to the least noticeable students more often than to other students to inspect their work, so that there is no reason to suspect that the least noticeable students were doing poor work or required special supervision. The findings apparently mean that the least noticeable students tended to their own affairs without feeling it necessary to approach the teachers, except when they needed help or clarification concerning work assignments.

5. Private, Non-Work Contacts. Most of the significant group effects in this section were for student initiation variables, and they indicate that the least noticeable students were relatively inactive in the classroom. The noticeable students initiated more contacts, and the less noticeable students initiated fewer contacts, with the teachers (154). A significant group effect in the same direction was observed for student initiated approval seeking (156). Thus, the least noticeable students were less likely to approach the teacher for any reason, but especially unlikely to approach the teacher to seek approval for good work or completed work.

The least noticeable students also were especially unlikely to come to the teacher to tattle, even though when they did so they were more likely to be approved and less likely to be rejected (125, 126, 127). Similarly, these same students were least likely to come to the teachers to initiate purely social contacts, even though when they did so they were likely to receive acceptance and feedback from the teacher and unlikely to be refused (128, 129, 130). Here again, the teachers apparently were reacting to these students in ways that were likely to motivate them to approach them more often, but this behavior did not succeed.

Furthermore, differences on teacher variables also suggest teacher efforts to increase interaction with less noticeable students. The teachers were less likely to approach these students to request them to perform housekeeping tasks (144), but they were especially likely to approach them with purely social contacts (57). However, when the teachers did approach these students for social contacts, the least noticeable students were especially unlikely to respond to the teachers with positive reactions (58). They were no more likely than average to respond with negative reactions

either (59). This indicates that their response to the teachers was limited to passivity and disinterest, rather than avoidance or hostility.

When the least noticeable students approached the teachers for housekeeping requests, they were especially likely to be approved (115). When they approached the teacher with personal requests, they were unlikely to be refused (120). Thus, except for the fact that the teachers did not often approach the least noticeable students with housekeeping requests, every other significant group difference in this section fits a larger pattern involving: 1) avoidance of the teachers by the least noticeable students; 2) teacher attempts to counteract this by responding to these students favorably when the students did approach them; and 3) teacher attempts to reach out to these students (unsuccessfully) to initiate social contacts. The data presented so far provide no indication that these least noticeable students were negativistic toward the teachers, but they were notably bland and detached. They provided little positive response to the teachers, even when the teachers went out of their way to be pleasant.

6. Behavior Related Contacts. The teachers seldom had behavior related contacts with the least noticeable students (147, 60), as would be expected from the pattern of results reviewed so far. Furthermore, other differences in behavior related contacts extend the pattern of teacher attempts to be positive and pleasant toward these students, for the most part. Teachers did single out the noticeable students for praise of good behavior more often (68), but a greater proportion of total contacts that teachers had

with the least noticeable students involved some form of positive teacher reaction (138). This suggests that teachers were praising the least noticeable students more often per opportunity than they were praising the most noticeable students (who provided more opportunities).

Data on negative teacher reactions to misbehavior indicate that the least noticeable students were unlikely to be threatened (72), and that they did not respond emotionally to the teachers the way that other students did. Noticeable students were high, and less noticeable students were low, both on the percentage of behavioral contacts in which the students responded by being cowed (75) and in the percentage in which they responded by being sullen (76). Again, the least noticeable students showed neither fear nor hostility toward the teachers in negative situations, and they did not show positive reactions to the teachers in more pleasant interactions. The general impression here is one of physical inactivity and emotional passivity.

The final significant group effect in this section indicated that teachers were coded for some form of critical incident in a greater percentage of their interactions with the noticeable students as compared with other students (153). The general pattern of relationships reviewed in this section indicates that these critical incidents probably were mostly negative in nature.

Summary for Noticeable

The perceptual data for noticeable indicate that the teachers and especially the observers made their rankings for noticeable primarily on the basis of student activity and general behavior in seatwork situations.

These situations allowed individual differences in activity level and sociability to appear more clearly than they did during lessons, which impose structure and role behavior on students. Although the observer perceptions of noticeable students were a little more negative than those of the teachers, both groups agreed in seeing the least noticeable students as different from other students, and different primarily by virtue of passivity and low scores on various measures of activity. This result was almost "automatic" for the observers. They observed each classroom only five times, so that the students they rated as least noticeable were the ones that did not come to their attention. The most likely candidates for this were passive, inactive students.

These impressions were borne out quite clearly in the observational data, which indicated that passivity was the primary defining attribute of the least noticeable students. They avoided interactions with teachers except when they needed help and they did not volunteer to answer questions or call out answers. The teachers systematically tried to reach them by initiating interactions with them more often, by praising them more often, and by criticizing them less often, but this apparently was not very successful.

Furthermore, these students were especially unlikely to respond favorably to teacher overtures, and they also were unlikely to respond negatively to the teachers. In short, they were detached and inactive in their general behavior, and unemotional in their interactions with and responses to teachers. It is difficult to judge from these data whether the observer perceptions of these students as having low self-esteem were

accurate. It is possible that this pattern of passivity could be independent of self-esteem, although it seems likely that low self-esteem might have been one of the reasons for this passivity.

The less noticeable students make interesting contrasts with certain other groups, particularly those classified as unhappy and as immature. The classroom observation data on the latter groups revealed numerous differences suggesting that they were having a difficult time, either in school or in their lives generally. In contrast, the data for less noticeable students indicate clearly that these students were unusually inactive in their behavior and passive in their emotional response to the teachers, but they provide no indication that these students were necessarily unhappy, poorly adjusted, or otherwise worse off than other students. In summary, this passivity may simply be a stylistic difference, without any implications concerning adjustment or mental health.

Eye Contact

The teacher rankings and observer ratings of eye contact correlated only .20, indicating relatively low agreement for this scale. As mentioned previously, this is due mostly to reduced variance in the scale. Both teachers and observers reported difficulty discriminating among students who typically showed eye contact. In many ways, this scale reflects a division between students who avoided eye contact and all other students, rather than a distribution along a continuum from very low to very high eye contact.

Eye contact scores did form part of the general "halo pattern" in their correlations with other scales, although these usually were low correlations. Eye contact correlated highly in the teacher rankings with happy, achieving, creative, persistent, attachment, and noticeable; indicating that teachers had generally favorable perceptions of students who avoided eye contact. The strongest correlations in the observer rankings were with happy and creative.

Partial correlations for the teacher rankings indicated significant positive relationships between eye contact and happy, attachment, and noticeable, indicating that eye contact was associated not only with the general halo of positive attributes, but particularly with teacher liking of students. The teachers perceived students who avoided eye contact as unhappy, but they also did not like these students.

Adjective Description Variables

Significant group effects appeared for eye contact on nine of a possible 37 teacher variables and five of a possible 31 observer variables (see Table 14-3). Data common to both groups were sparse and showed less agreement than normal, again indicating that eye contact was a less reliable and probably less valid scale than the others. Teachers and observers agreed on three descriptors, mildly disagreed on two others, and disagreed clearly on a sixth.

Both groups associated eye contact with intelligence, inactivity, and general positive descriptions. In addition, data available for one group but not the other indicated that the teachers saw students who maintained eye contact as social leaders, as coming from good homes, and as creative,

and that they saw students who avoided eye contact as often absent and as untrustworthy. In addition, the observers saw the students who maintained eye contact as sociable and those who avoided eye contact as unsociable, providing partial confirmation of the teacher perceptions for social leadership.

The teachers' perception of the students who avoided eye contact as untrustworthy is particularly interesting in view of the cultural association between these attributes ("shifty-eyed," etc.). Other data will be examined to see if there were any indications that these teacher perceptions were valid.

Minor disagreements were seen for good worker and inattentive. The observers showed a significant group effect for good worker, perceiving students who maintained eye contact as good workers and those who avoided eye contact as poor workers. The teachers did not have a significant group effect here. They did rank students who maintained eye contact highest, but those who avoided eye contact were ranked in the middle for good worker. The teachers had a significant group effect on inattentive, perceiving students who avoided eye contact as least likely to be inattentive. The observers did not have a significant group effect here. They agreed in perceiving students who maintained eye contact as least likely to be inattentive, but they rated students who avoided eye contact in the middle on this attribute.

Finally, there was disagreement on the use of the "other negative" category. The observers had a significant group effect here, using these negative descriptors most often to describe students who maintained eye contact and least often to describe students who avoided eye contact.

The teachers had the reverse pattern, although there was not significant group effect. Taken together, the disagreements here suggest, as they usually do, that the teachers had more halo effect in their perceptions, compared to those of the classroom observers. In particular, the teachers perceived the students who avoided eye contact as inattentive and as untrustworthy. We will examine the other data for information relevant to these perceptions.

Checklist Variables

Significant group effects were obtained for all of the checklist variables except poor peer relations (see Table 14-2). The observers saw students who avoided eye contact as more boisterous and disruptive, more passive and unemotional, less likely to have good peer relations, lower in self-esteem, and more clumsy and lethargic. These data suggest halo effect in several respects. First, the perception of students who avoid eye contact as boisterous and disruptive was not accompanied by similar differences in the adjective description data. Furthermore, these students were described as passive and unemotional on the checklist, but as active in the adjective descriptions. The adjective description data do provide some support for the perception that students with good eye contact had good peer relationships, however.

Classroom Observation Data

Significant group effects for eye contact appeared on 25 of a possible 153 classroom observation variables. Although this is a relatively low number compared to those for other scales, it is higher than was expected

In view of the low variance for this scale and the generally unconvincing pattern of perception data. As expected, many of the significant group effects that did appear were caused by a difference between the students who avoided eye contact and the other two groups of students consistent on this scale.

1. Total Response Opportunities. The students who maintained eye contact had more response opportunities, and the students who avoided eye contact had fewer (1, 139). Also, a greater proportion of the total contacts with teachers involving students who avoided eye contact were teacher initiated contacts (36), and a greater percentage of the total work contacts involving these students were private ones (37). This effect was exaggerated slightly when approval seeking contacts were taken into consideration (38).

None of these data are surprising. They indicate that students who avoided eye contact with the teachers were less likely to respond in public response opportunity situations and less likely to approach the teacher for private contacts. This makes sense if avoidance of eye contact is part of a generalized pattern of inhibition, either toward the teacher or toward people in general.

2. Response Opportunities in General Class Activities. Students who maintained eye contact had unusually high rates of public response opportunities in general class contexts, and those who avoided eye contact had unusually low rates (141, 3). Teachers tried to counteract this by calling on the students who avoided eye contact more frequently as non-volunteers (18),

because these students did not volunteer as often as the other students did (21). It also is possible, of course, that the teachers called on students who avoided eye contact as non-volunteers for disciplinary reasons, if they were less attentive as well as less inclined to volunteer.

Perhaps the most interesting aspect of the data from general class situations are the variables that did not show significant group effects. In other situations involving patterns like these, in which certain groups of students were reticent about volunteering to respond in public response opportunity situations, the teachers typically reacted not only by calling on them more often as non-volunteers, but also by praising them more often and criticizing them less often. These differences did not appear with the students who avoided eye contact. This indicates that the teachers were less willing or able to reach out to these students and try to encourage them to participate. Along with the teacher perceptions of these students as untrustworthy, these data indicate that the teachers did not particularly like these students, and that they made less strenuous efforts to "reach" them than they did with other kinds of reticent students (although they did call on them as non-volunteers more frequently).

3. Response Opportunities in Small Group Activities. Because the students who avoided eye contact did not volunteer, and thus did not get called on, as often in general class activities, a greater proportion of their public response opportunities occurred in small groups (2). Even so, a smaller proportion of these occurred because they had volunteered (7). These data, like the data for public response opportunities generally, indicate that the students who avoided eye contact also avoided volunteering to make public

responses. They forced the teachers to call on them as non-volunteers in order to get them to participate.

4. Private Work Contacts. All of the significant group effects in this section concerned teacher reactions to the students who avoided eye contact, and they indicate ambivalence on the part of the teachers. A greater percentage of the total work contacts involving these students included praise from the teachers (132), but these students also were criticized more often during work contacts (133). These differences were mostly in teacher initiated rather than student initiated work interactions. Teachers gave the students who avoided eye contact more criticism in teacher initiated work contacts (42).

These same students also had a smaller percentage of situations in which the teacher merely observed them working without stopping to talk to them (45). This indicates that the teachers felt it necessary and/or wanted to interact with students who avoided eye contact. These students did not encourage them, however: they had a greater percentage of teacher initiated work contacts in which they responded to the teachers in a negative way (44). Thus, they responded negatively to teacher attempts to reach them.

The final variable in this section showing a significant group effect concerned teacher initiated work contacts which involved brief feedback, as opposed to either mere observation or more extended feedback (46). The difference here appeared because the group rated medium in eye contact had a lower percentage of brief feedback contacts with the teachers than either the students who maintained eye contact regularly or those who avoided it. We have no interpretation for this effect, which was unexpected

and is related to any larger pattern that might lend meaning to it.

In summary, the data for work interactions indicate that the teachers were trying to reach out to the students who avoided eye contact, but that these students responded negatively to the teachers' overtures.

5. Private, Non-Work Contacts. Only three significant group effects appeared here, and they continue the pattern of teacher ambivalence. Teachers initiated more contacts with the students who avoided eye contact than with other students (142). This indicates that the teachers were systematically initiating interaction with these students, even though the students avoided eye contact with them and in some ways "turned them off." In addition, when these students initiated social contacts with the teachers, the teachers were likely to respond positively and give brief feedback, and unlikely to refuse the students (129, 130). In short, these data indicate that the teachers were going out of their way to try to be pleasant toward these students, despite their negative perceptions of them.

6. Behavior Related Contacts. Only five behavior related contacts showed significant group effects for this scale, and they form an unusual combination. First, a greater proportion of the behavioral contacts involving students who avoided eye contact were for non-interactive misbehaviors such as cheating or lying (67). This provides support for the teachers' descriptions of these students as untrustworthy.

The remaining significant effects indicate that teachers had a difficult time controlling their responses to these students. They were especially likely to respond to disruptive misbehavior by these students

with threats, criticism, or punishment (87). They also were likely to respond with warnings (92) or with threats, criticism, or punishment (93) when these students behaved aggressively toward their classmates. These data indicate that the misbehavior of these students was especially disruptive or annoying, and/or that the teachers were less patient with them and more likely to respond negatively when they misbehaved.

The final significant group effect is related more closely to teacher interactions with students who maintained eye contact than to interactions with students who avoided eye contact. It showed that the teachers were especially likely to flatter the students who maintained eye contact (151).

Summary for Eye Contact

Teachers and observers had less agreement about student eye contact and less convincing and less logical group effects for this scale in the adjective description and behavior checklist data. However, the major point of disagreement surrounded teacher perceptions of students who avoided eye contact as inattentive and untrustworthy. The observational data provided no direct corroboration concerning attentiveness, but they did indicate that students who avoided eye contact seldom volunteered to answer questions or approached the teacher for any reason. They did provide support for the teachers' perceptions that students who avoided eye contact were untrustworthy. These students were especially likely to be coded for misbehaviors involving cheating, lying, or other violations of trust.

Most of the significant group effects revealed that the teachers were trying to reach students who avoided eye contact by calling on them more

often and initiating interactions with them. However, these students responded negatively to these teacher attempts, and the teachers generally were less persistent and less successful in trying to "win them over" in comparison to their treatment of other types of students who generally avoided them. The teachers apparently were ambivalent about these students. They initiated contacts with them more often, but they also were less patient with them when they were disobedient (apparently with some justification).

Conclusion

Like most scales, the noticeable and eye contact scales indicated more halo effect in the teacher rankings than in the observer ratings and adjective descriptions. However, there was less agreement between teachers and observers in the adjective descriptions data for these two scales. Differences on the noticeable scale were due mostly to differences in what teachers and observers took into account in rating noticeable. The observer descriptions apparently were affected most strongly by classroom activity level, particularly in seatwork situations. This led to a mixed pattern of descriptions, some of which pictured the noticeable students as sociable and popular, while others pictured them as overly active or misbehaving. The teacher data were more clearly positive. Many students were noticeable to the teachers for reasons having to do with creative or otherwise outstanding work. In general, the teachers were more attentive to student behavior relevant to teaching and learning, and less attentive to social behavior with peers in ranking the students on noticeable.

The behavioral data for the students who were not very noticeable were consistent in picturing these students as passive and unresponsive. They did not volunteer to respond or to call out answers in public response situations, and they did not approach the teachers except when they needed help with their work. They were lower than average in both positive and negative responses to the teachers indicating that they were generally passive individuals rather than individuals who were alienated from the teachers or from schooling. In many ways, the data for the students ranked as least noticeable in this study are similar to those in previous studies for students rated low in teacher concern.

Whereas the noticeable scale departed from the norm by showing both positive and negative correlates, the eye contact scale was part of the general cluster of halo effect scales. Students high on this scale generally were perceived positively on other attributes, and students who avoided eye contact generally were perceived negatively. Perception data from the teachers and observers were sparse, probably because the scale produced relatively little variance. Neither group could distinguish reliably among those students who maintained eye contact above a certain level. In effect, then, most of the relationships for this scale concerned the students who avoided eye contact compared to students in general.

The perception data indicate that students who avoided eye contact were perceived generally negatively. Both teachers and observers perceived them as having poor peer relationships and as being less intelligent than other students, and the teachers also perceived them as inattentive and untrustworthy. The observational data provided support for these teachers'

perceptions. Students who avoided eye contact were especially likely to be coded for cheating, lying, and other forms of misbehavior that involved violations of trust.

The classroom observation data for students who avoided eye contact with teachers indicated that these students seldom volunteered for response opportunities and seldom approached the teachers. The teachers responded by initiating more interactions with them and calling on them more often as non-volunteers. However, they were not able to reinforce these differences in contact frequency with additional differences in the emotional quality the contacts they shared with these students. In contrast to their behavior toward other types of students who avoided volunteering for responses and avoided approaching them, the teachers were notably absent in positive treatment and above average in negative treatment of students who avoided eye contact.

Apparently, these students were so irritating to the teachers that they responded generally negatively to them even though they were aware of the need to do something about them and in some ways were trying to do so. As a result, despite good intentions, the teachers were positive less often and negative more often in interactions with these students, compared to students who maintained eye contact and to students in general.

Table 14-1. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Noticeable Scale.

Adjective Descriptions	Teachers Groups				Observers Groups			
	Low	Med	High		Low	Med	High	
1. Sociable	3	2	1	*	3	<u>2</u>	<u>1</u>	***
3. Happy	3	2	<u>1</u>	*	3	<u>2</u>	<u>1</u>	*
4. Quiet	1	2	3	***	<u>1</u>	<u>2</u>	3	***
6. Well-behaved	-	-	-		<u>1</u>	2	3	*
7. Confident	3	2	1		3	<u>2</u>	<u>1</u>	**
9. Intelligent	3	2	1	***	3	2	<u>1</u>	***
10. Achieving	2	3	<u>1</u>	**	-	-	-	
13. Aggressive	3	2	1	*	3	1	2	
15. Active	3	2	<u>1</u>	**	3	<u>2</u>	<u>1</u>	***
16. Considerate	1	3	2		<u>1</u>	2	3	*
19. Unobtrusive	2	1	3		<u>1</u>	<u>2</u>	3	*
21. Humorous	3	2	<u>1</u>	*	3	2	1	
22. Other Negative	3	1	2		3	2	<u>1</u>	*
23. Other Positive	3	<u>2</u>	<u>1</u>	*	2	1	3	
24. Social Leader	3	2	<u>1</u>	*	-	-	-	
29. Creative	3	2	<u>1</u>	*		NA		
31. Often Absent	<u>1</u>	2	3	**		NA		
39. Bossy		NA			3	<u>2</u>	<u>1</u>	*
40. % Positive	2	3	1	*	3	2	1	

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 14-2. Rank-Ordering of Group Means on Behavior Checklist Variables for Students Perceived Consistently on the Noticeable and Eye Contact Scales.

<u>Variable Name</u>	<u>Noticeable</u>				<u>Eye Contact</u>			
	<u>Low</u>	<u>Middle</u>	<u>High</u>		<u>Low</u>	<u>Middle</u>	<u>High</u>	
1. Bolsterous, Disruptive	3	<u>2</u>	<u>1</u>	**	<u>1</u>	3	2	*
2. Passive, Unemotional	<u>1</u>	2	3	***	<u>1</u>	<u>2</u>	3	**
3. Good Peer Realtions	3	2	1	***	3	2	1	***
4. Poor Peer Relations		NS				NS		
5. Low Self-Esteem	<u>1</u>	2	3	***	<u>1</u>	2	3	***
6. Clumsy, Lethargic	<u>1</u>	<u>2</u>	3	**	<u>1</u>	<u>2</u>	3	**

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 14-3. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Eye Contact Scale.

Adjective Descriptions	Teachers Groups				Observers Groups			
	Low	Med	High		Low	Med	High	
1. Sociable	-	-	-		3	2	1	*
9. Intelligent	3	2	<u>1</u>	***	3	2	1	***
11. Good Worker	2	3	1		3	<u>2</u>	<u>1</u>	*
15. Active	<u>1</u>	2	3	*	1	2	3	
17. Inattentive	1	2	3	*	2	1	3	
22. Other Negative	1	2	3		3	2	<u>1</u>	***
24. Social Leader	2	3	<u>1</u>	**	-	-	-	
28. Good Home	3	2	<u>1</u>	***		NA		
29. Creative	3	2	<u>1</u>	*		NA		
31. Often Absent	<u>1</u>	2	3	***		NA		
35. Untrustworthy	<u>1</u>	3	2	*		NA		
40. % Positive	3	<u>2</u>	<u>1</u>	***	3	<u>2</u>	<u>1</u>	**

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Having discussed attributes related to students' general social attractiveness and the degree to which they "stand out from the crowd," we now turn attention to one of the attributes most central to the student role: classroom conduct. Previous research had led us to expect that this, along with persistence and achievement, would form the core of student attributes determining teacher attitudes and expectations. The results supported these expectations. Group effects for students perceived consistently on the cooperative vs. uncooperative scale were both numerous and indicative of strong teacher reactions to the students ranked at the extremes.

Teacher rankings and observer ratings on cooperative correlated .49, indicating good agreement. Also, the patterns of intercorrelation between cooperative and the other 12 scales were similar, indicating that this scale was part of the general halo pattern and that it had several very strong relationships with other scales. In the teacher rankings, cooperative correlated especially strongly with calm, careful, mature, persistent, attachment, and concern (negatively). Observer correlations were relatively high for these same scales, especially persistent. In addition, there was a strong negative correlation between cooperative and noticeable for the observers, indicating that misbehavior was one reason that students came to their attention.

The partial correlations for the teacher rankings indicated that the cooperative scale correlated strongly and positively with calm, mature, and attachment, less strongly but positively with happy and persistent, and less strongly and negatively with concern and noticeable. Thus, students ranked high on cooperative were seen as mature students high in self control and compliance, and they were likely to be objects of teacher attachment. Students seen as uncooperative had the opposite pattern. In the partial correlations, there was no relationship

between cooperation rankings and rankings on achieving or creative, indicating that, beneath the halo effects, cooperation ratings were based strictly on student conduct and not on student achievement.

Adjective Description Variables

Significant group effects for cooperative were found for 19 of a possible 37 teacher variables and for only 9 of a possible 31 observer variables (See Table 15-1). The 14 variables containing data for both groups revealed 11 agreements, two partial agreements and only one clear disagreement. This is an unusually high degree of agreement between the teachers and observers in adjective description data.

Both teachers and observers agreed in seeing cooperative students as quieter, better motivated, better workers, and more popular with their peers. Both groups often used more "other positive" descriptors for cooperative students, and their percentages of positive statements were highest for cooperative students. Uncooperative students were lowest on all of these variables. In addition, both teachers and observers ranked uncooperative students highest on aggressive, active, inattentive, and temperamental, and both groups used more "other negative" descriptions to refer to them. Thus, teachers and observers agreed in seeing cooperative and uncooperative students as differing on a great variety of attributes. These included personal attributes, peer behavior, and work related behavior, and all differences favored the cooperative students.

Variables for which data were available for only one group indicated that the teachers saw cooperative students as higher achieving, more likely to come from good homes, and sweeter, and that they saw uncooperative students as more likely to have medical problems, to be underachievers, and to be untrustworthy.

In addition, the observers saw cooperative students as better behaved. All of these add to the consistent pattern already observed.

Minor disagreements appeared for helpful and intelligent. Both teachers and observers had significant group effects for helpful, but the patterns differed slightly. Both groups agreed in seeing the uncooperative students as least helpful and as being different from the students ranked middle and high on cooperative. The difference appeared because the teachers saw the cooperative students as the most helpful, whereas the observers saw the students ranked in the middle on cooperative as being the most helpful. In any case, the perception of the uncooperative students as being the least helpful was agreed upon by both groups.

Similarly, there were significant group effects for both teachers and observers for intelligent. Both groups saw the cooperative students as being more intelligent than those ranked in the middle or those considered uncooperative. The difference occurred because the observers had the uncooperative students ranked last, whereas the teachers had them ranked in the middle. It is of interest that the teachers also saw the uncooperative students as under-achievers. They saw the uncooperative students as able to achieve at higher levels than they were, presumably because of their poor classroom conduct and general lack of cooperation. The observers did not make this distinction, presumably because they had less opportunity to observe the students.

The only disagreement occurred on responsible. The teachers had a significant group effect typical of their perceptions: Cooperative students were seen as most responsible and uncooperative students as least responsible. The observers had no group effect. They did see the uncooperative students at least responsible, but they did not see the cooperative ones as most responsible.

Even though these adjective description data involve a variety of variables, the observer data support the teachers on all perceptions except the ones concerning responsibility, and there is partial support even here. It is interesting that the observer data support the teacher data even for the "other negative" and "other positive" categories, two places where disagreements were common with other scales. It appears that student differences on cooperation were easier to see than student differences relevant to other scales, and that the teachers and observers used very similar criteria in making their judgments.

Checklist Variables

Significant group effects were obtained for all checklist variables except poor peer relations (See Table 15-2). The uncooperative students were seen as boisterous and disruptive, as expected. They also were seen as less likely to be passive and unemotional, a finding that makes sense given the student attribute in question. Cooperative students were seen as especially likely to have good peer relations and to have high self-esteem. The findings for good relations make sense for cooperative students, although the self-esteem difference might reflect halo effect rather than real differences in self concept.

The final group effect indicated that the students rated in the middle on cooperation were seen as most likely to be clumsy and lethargic, with the uncooperative students ranked next and the cooperative students ranked last. It is difficult to determine whether this effect reflects reality, because observers had little opportunity to watch the students in situations where

energy levels and coordination could be observed easily. Thus it is difficult to make predictions or explanations of any kind relating this body coordination variable to classroom conduct.

Classroom Observation Variables

Significant group effects for cooperative were obtained for 41 of a possible 156 variables, an unusually high percentage. Furthermore, as expected, they were concentrated in private, non-work contacts and behavioral contacts, the two categories which most clearly reflect classroom conduct and the emotional quality of teacher relationships.

1. Total Response Opportunities. The cooperative students had fewer, and the uncooperative students had more, total contacts with the teacher (164), although a greater percentage of the contacts involving cooperative students were response opportunities and a low percentage of those involving uncooperative students were response opportunities (1). The difference is due mostly, of course, to the much greater frequency of behavior related contacts with uncooperative students (147).

The only other significant group effect for total response opportunities indicated that teachers were especially likely to criticize poor answers from uncooperative students called on as non-volunteers (35). This suggests that the teachers were calling on these students as non-volunteers not only to get them to participate more often, but also partially as a control mechanism, and that they were prone to criticize them if failure to respond or very poor responses indicated inattentiveness.

2. Response Opportunities in General Class Activities. The same finding concerning criticism of responses in non-volunteer situations appeared for response opportunities in the general class context (20). Other significant findings for the general class context indicated that cooperative students were more likely, and uncooperative students less likely, to get response opportunities by volunteering (21). The reverse was true for calling out answers without permission (27). The latter effect probably partially reflects differences among these students in self control, although it also may reflect a greater willingness by the teachers to accept calling out from uncooperative students as part of an attempt to get them to pay attention and participate. Even so, they did criticize these students more frequently if they failed to respond well when called upon as non-volunteers.

3. Response Opportunities in Small Group Activities. Only two significant effects appeared here, both indicating that the cooperative students were more likely to get response opportunities through volunteering, while the uncooperative students were more likely to be called on as non-volunteers (4, 7). Taken together, the few significant group effects for public response opportunities indicate that the cooperative students volunteered frequently and that the uncooperative students did not. (Uncooperative students tended to call out answers without permission more often, but not significantly so). Teachers responded to this by calling on the uncooperative students as non-volunteers more often. They also criticized them more often in this context if they did not answer well (although this effect was not statistically significant).

4. Private Work Contacts. The total number of criticisms and negative evaluations occurring in interactions initiated by the teachers was higher for the uncooperative students and lower for the cooperative students (162), although the differences were not as large as might have been expected. Furthermore, many of the differences involved criticisms for poor work (160, 133), not for misbehavior. These criticisms for poor work were especially likely to occur in interactions initiated by the teachers (42). These data suggest that the teachers were closely monitoring the work of the uncooperative students, and criticizing them when they failed to work up to their perceived potential. This fits the teacher perceptions of the uncooperative students as underachievers.

There were no significant differences in this section for number of student initiated contacts, but the proportion of such contacts (as opposed to teacher initiated contacts) was high for the cooperative students and lower for the uncooperative ones (97). This difference was due mostly to teacher initiation of contact with students, rather than to student initiation of contacts with the teachers.

Also, even though the teachers were concerned about the work of the uncooperative students, they refused student initiated work contracts with these students more often than average. They also were less likely to refuse initiatives from the cooperative students (99). As with other differences on this variable, we think that the teacher behavior here reflects differences in students in the appropriateness of the timing and nature of their approaches to the teacher, more than the differences in willingness to discuss work with these students. Most probably, the uncooperative students approached the teachers at inconvenient times or in inappropriate ways, and were refused more often for this reason.

In general, the data on private work contacts were interesting in that they did not show that the uncooperative students were avoiding the teachers or avoiding work. Instead, they suggested that the uncooperative students were underachievers (as teachers perceived them to be), and that the teachers were responding to this by monitoring their work more closely and criticizing them more often. The differences, in teacher responsiveness when students approached them to initiate contacts concerning work suggest that the uncooperative students were less sophisticated in knowing when and how to approach the teachers, and/or that they approached them with questions the teachers considered inappropriate (such as questions they could answer themselves by looking at the assignment on the board or by reading the directions on their seatwork papers).

5. Private, Non-work Contacts. The uncooperative students initiated more personal contacts with the teachers (158), and the teachers initiated more total private contacts (142) and more work contacts (143) with them. Thus, there were high rates of interaction involving the teachers and the uncooperative students for reasons having to do with work or personal affairs, in addition to frequent contacts resulting from student misbehavior. The high rates of student initiation of personal contacts suggest that the uncooperative students were less responsible about tending to their possessions and taking care of other personal needs. This provides support for the descriptions of these students as less responsible.

Because of the differences in teacher and student initiation of contacts, the uncooperative students had high proportions, and the cooperative students had low proportions, of total contacts which were related to non-work matters (39). Most of the other differences in this section concern student initiation

of non-work interactions and teacher responses to them.

A greater proportion of the student initiated housekeeping requests made by uncooperative students were refused, and a greater proportion of those made by cooperative students were approved (114,115). This may be yet another indication of differences in student sophistication concerning appropriateness of requests made of the teachers, although the differences also may reflect differences in student completion of work (teachers are more likely to approve a housekeeping request from a student who has completed assignments than from one who has not). Despite these differences in approving and disapproving housekeeping requests, when teachers did approve them for uncooperative students, they were more likely to suggest that the approval constituted a reward (117). This may have been an attempt by the teachers to compensate for the fact that they approved such requests from cooperative students more often, and it also may have been part of a larger attempt to modify the behavior of these students. In addition to these differences concerning student initiated housekeeping contacts, there also was a difference in teacher initiated housekeeping contacts. Here, the proportion of such contacts which were initiated with cooperative students was above average, and the proportion initiated with uncooperative students was below average (48). Thus, teachers were more likely to approve and less likely to refuse when cooperative students came to them with housekeeping requests, and when the teachers themselves initiated housekeeping requests, they were more likely to seek out the cooperative students than the uncooperative ones. All of this suggests that they saw the cooperative students as being more responsible than the uncooperative students.

Similar findings were observed with student initiated personal and tattling

contacts. The teachers were more likely to approve and less likely to refuse such contacts when they were initiated by cooperative students (120, 121, 126, 127). The difference for tattling may have occurred in part because the cooperative students tattled less often in the first place (125). These differences extend the pattern observed so far, in which there is no evidence that uncooperative students were avoiding the teachers or responding negatively to them, but considerable evidence that the teachers were refusing higher proportions of the requests made by these students.

The final significant group effect in this set is particularly interesting: uncooperative students were especially unlikely to respond negatively when teachers initiated social contacts with them (59). Even though these students were generally uncooperative, and even though the teachers turned them down usually often when they approached them with personal or housekeeping requests or with attempts to tattletale on other students, these students were neither discouraged from coming to the teachers nor alienated from the teachers. In fact, the one difference indicating affective response suggests that these students responded positively to the teachers when interactions were of a positive or pleasant nature. Recall that this was not true of unhappy students, students who avoided eye contact, and certain other groups of students who were ranked in the undesirable direction on other scales.

6. Behavior Related Contacts. Unsurprisingly, there were many significant group differences in this section for the cooperative scale, although not as many as appeared for certain other scales. As expected, uncooperative students

had many more, and cooperative students many fewer, behavior related contacts with the teachers (60, 147). In addition to the difference in sheer frequency of misbehavior, the misbehavior of the cooperative students tended to be non-disruptive (62), while the misbehavior of the uncooperative students tended to be disruptive (63) and to involve aggression or defiance of the teacher more often (64). Thus, the uncooperative students misbehaved both more often and more intensely than cooperative students (and other students in general).

In addition, the uncooperative students more often responded to teacher disciplinary efforts by becoming sullen (76) or responding in some generally negative way (74). Cooperative students were unlikely to respond this way. Even so, the differences here were more due to the cooperative students than the uncooperative ones. That is, the uncooperative students were more likely than average to respond with sullenness or negative reactions, but differences were marginal. As might have been expected by the data presented so far (although in contrast to what we expected in advance), there was little support for the idea that the teachers and the uncooperative students regarded each other with intense hostility and alienation.

However, the more frequent and more intensive misbehavior of the uncooperative students did make a difference in teacher reactions to misbehavior. In general, the uncooperative students were more likely to be threatened, criticized or punished for their misbehavior than the cooperative students were (72, 73). However, on the relatively rare occasions when the cooperative students not only misbehaved but did so in a disruptive manner, the teachers were especially likely to warn them rather than to react with a milder management response (86). This may indicate a difference in teacher expectations concerning the behavior of these students. Perhaps the teachers had come to expect good cooperation

from students ranked high on cooperative, so much so that they reacted more negatively than usual on the few occasions in which these expectations were not fulfilled. This would have the effect, of course, of minimizing disruptive misbehavior by cooperative students, thus helping to fulfill the expectations.

The remaining group effects indicated that the teachers were more likely to praise good behavior by cooperative students (68), more likely to positively reinforce cooperative students, less likely to positively reinforce uncooperative students (77), and unlikely to respond negatively to cooperative students but likely to do so to uncooperative students (137). None of these differences are surprising, given the differences in frequency and intensity of student misbehavior. Perhaps more interesting are variables that did not show significant group effects: all of the variables involving positive and negative affect in the teachers.

In contrast to the teacher-student relationships observed with certain other groups, the data for uncooperative students did not suggest a pattern of intense hostility on the part of either the students or the teachers. Apparently, the students who really vexed the teachers not only were uncooperative, but also had certain personal qualities that "turned off" the teachers. Sheer frequency and even intensity of misbehavior was not enough to cause the teachers to show negative emotions (although it did often produce criticism and/or punishment).

Summary for Cooperative

Unsurprisingly, the cooperative students volunteered to respond more often and had fewer non-work interactions with the teachers, especially behavior related

interactions. Equally unsurprisingly, the uncooperative students misbehaved both much more often and much more intensively. However, although these students were sullen and negativistic somewhat more often than students in general, and especially in comparison with the cooperative students, they did not show a generalized pattern of hostility toward the teachers. Similarly, although the teachers were less likely to praise and more likely to criticize or punish the misbehavior of uncooperative students, there was no indication that teacher behavior toward these students was strongly negativistic. This was true even though the teachers saw these students as untrustworthy and aggressive, and even though these students presented frequent and serious behavior problems.

Conclusions

Significant group effects in the perceptions data were unusually numerous for the cooperative scale, and there was unusually good agreement between the teachers and the classroom observers. This indicates that classroom cooperation is relatively easy to observe, and that the teachers and observers apparently used essentially the same criteria in making their ratings. In addition to supporting perceptions of differences on well behaved, disruptive, and other variables obviously related to classroom conduct, the classroom observation data provided support for the teacher perceptions of uncooperative students as less responsible and less attentive than cooperative students. They also supported the idea that uncooperative students were underachievers, given their abilities.

There was no support for the observer perception of uncooperative students as having low self-esteem. In fact, the tendency of these students to approach teachers often for virtually any reason suggests the opposite. Even though

their frequent and intense misbehavior caused them to be disciplined more often and somewhat more severely than other students, they approached the teachers not only when they had to get help with work, but also to tattle, make personal requests, or make housekeeping requests. In short, the uncooperative students were positively oriented toward the teachers, despite their high frequencies of misbehavior, and they were not deterred from seeking out the teachers by the generally negative teacher responses they got.

The behavioral data for the cooperative and uncooperative students showed the expected differences in participation in discussions and especially in classroom conduct. The uncooperative students misbehaved much more often and also more intensively. They also were more likely to be negativistic and sullen in responding to the teachers during disciplinary contacts, but the differences were not as large as might have been expected. Furthermore, the teachers had a generally negative pattern of attitudes toward these uncooperative students but their treatment of them in the classroom was not especially negativistic, despite the frustrations and stresses that these students provided. Teacher reactions to their misbehavior apparently were in proportion to what the students had done in most cases. This contrasts with the very negative or ambivalent patterns of interaction with unhappy students and students who avoided eye contact.

Taken together, the data indicate that sheer frequency and intensity of misbehavior does not necessarily mean that students will provoke strong negative emotional or behavioral responses in teachers. These responses appear to be reserved for students who have irritating personal qualities that go beyond the kinds of misbehavior that we coded.

The teachers praised the highly cooperative students more often than average,

as might have been expected, but they did not hold these students up as good examples to the class significantly more often, and they did not show a generalized pattern of positive affect in their interactions with these students. Furthermore, on the few occasions that these students did misbehave in a disruptive way, the teachers tended to react by warning them. Thus, just as frequent misbehavior does not automatically bring about negative responses from teachers, continuous good behavior does not automatically bring about positive responsiveness.

In general, the data for cooperative suggest that the teachers were primarily reactive in dealing with consistently cooperative or uncooperative students. That is, they responded to the behavior of these students as necessary, but they did not form strong emotional responses or generalized attitudes toward the students on the basis of this behavior. Apparently, in the absence of other personal qualities that are linked more closely with teacher emotional responsiveness to students, the sheer frequency of misbehavior and even the intensity of misbehavior do not have strong effects upon teacher-student relationships.

Table 15-1. Rank-ordering of Group Means on Adjective Description Variables for Students Perceived Consistently on the Cooperative Scale.

Adjective Descriptions	Teachers Groups			Observers Groups		
	Low	Med	High	Low	Med	High
4. Quiet	3	2	<u>1</u> ***	3	2	1 *
5. Helpful	3	<u>2</u>	<u>1</u> **	3	<u>1</u>	<u>2</u> **
6. Well-behaved	-	-	-	3	2	<u>1</u> **
8. Motivated	3	<u>2</u>	<u>1</u> ***	3	2	1
9. Intelligent	2	3	<u>1</u> ***	3	2	<u>1</u> **
10. Achieving	3	2	<u>1</u> **	-	-	-
11. Good worker	3	<u>2</u>	<u>1</u> ***	3	<u>2</u>	<u>1</u> ***
12. Popular	3	<u>2</u>	<u>1</u> ***	3	2	1
13. Aggressive	<u>1</u>	2	3 ***	1	2	3
14. Responsible	3	2	<u>1</u> ***	3	1	2
15. Active	<u>1</u>	2	3 ***	<u>1</u>	2	3 ***
17. Inattentive	<u>1</u>	<u>2</u>	3 *	1	2	3
18. Temperamental	1	2	3 *	1	2	3 *
22. Other Negative	<u>2</u>	<u>1</u>	3 *	2	1	3
23. Other Positive	3	2	1	3	2	<u>1</u> *
28. Good Home	3	2	<u>1</u> ***	NA		
30. Medical Problems	1	2	3 *	NA		
32. Sweet	3	2	<u>1</u> **	NA		
33. Underachiever	<u>1</u>	2	3 **	NA		
35. Untrustworthy	1	2	3 *	NA		
40. $\frac{1}{2}$ Positive	3	2	1 ***	3	2	<u>1</u> ***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 15-2. Rank-Ordering of Group Means on Behavior Checklist Variables for Students Perceived Consistently on the Cooperative Scale.

<u>Variable Name</u>	<u>Cooperative</u>			
	<u>Low</u>	<u>Middle</u>	<u>High</u>	
1. Boisterous, Disruptive	<u>1</u>	2	3	***
2. Passive, Unemotional	3	<u>2</u>	<u>1</u>	**
3. Good Peer Relations	3	2	<u>1</u>	***
4. Poor Peer Relations		NS		
5. Low Self Esteem	<u>1</u>	<u>2</u>	3	**
6. Clumsy, Lethargic	2	1	3	**

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

The 11 scales discussed so far all dealt with student attributes and behavior. Many of the findings relating to them provided information about teacher attitudes, particularly the teachers' adjective description data. Nevertheless, so far our focus has been on student differences as they affect teachers. We now turn to the two scales that measured teacher attitudes directly.

These included the attachment scale, which measured general teacher attitudes of liking vs. dislike of students, and the concern scale, which measured the degree to which teachers were concerned about students to the point that they felt the need to spend more time with them. It should be noted that students consistently ranked highly on the concern scale were those who were having a difficult time coping with school demands, and that the teacher concern involved was concern about helping these students cope. Teacher concern did not necessarily indicate attachment or empathy. On the other hand, teachers were not equally concerned about all of their students who were having difficulty, so students consistently ranked high on the concern scale had qualities that made teachers respond positively to them, in comparison with other students who were having difficulties but did not elicit such concern.

It also should be kept in mind that students consistently ranked low on the concern scale were not necessarily disliked or even viewed neutrally by the teachers. The wording of the scale was phrased in terms of perceived need to spend more time with particular students, so consistently low ranking on this scale meant only that the teachers did not see any need to spend more time with such students. This may have meant a desire to avoid these students, but usually it meant only that the teachers recognized that some students were doing well and did not want or need special attention from them. Consequently, being

ranked consistently low on the concern scale was part of a generally positive pattern for many students, and being ranked high on the concern scale was part of a generally negative pattern.

Our focus in this chapter is a little different from the focus in the chapters dealing with the other 11 scales. Instead of considering students ranked consistently on student attributes and analyzing the effects of these student attributes on teachers, we will be looking at teacher attitudes towards student and the correlates of these attitudes in analyzing the attachment and concern data. We will look at the ways that these attitudes do and do not show themselves in teacher-student interaction.

Attachment

Teacher rankings and observer ratings of attachment correlated only .27, somewhat lower than average. This indicates that the observers used different criteria in identifying attachment students than the teachers used. The differences in role between the teachers and the observers, as well as the differences in amount of knowledge about the students and distribution of such knowledge across various categories (achievement, work habits, peer relationships, classroom conduct, general personal characteristics), made it likely that the kinds of students who did or did not appeal to the teachers vs. the observers would be somewhat different. In particular, the observers probably were less affected by student attributes central to teaching and learning, and were more affected by general personal characteristics and peer relationships. This idea was supported by the partial correlations of the teacher rankings. Attachment related most strongly to persistent and cooperative in the partial correlations, and these are student attributes central to the student role. Teacher attachment

also was significantly related to calm, attractive, and eye contact, so teachers were affected by more personal attributes in making their attachment rankings, too. Even so, though, the teacher role was evident in focusing their attention on student persistence and cooperation. This should be kept in mind in viewing the data to be presented for attachment students.

Adjective Description Variables

Significant group effects for attachment appeared for 14 of a possible 37 teacher variables but only seven of a possible 31 observer variables (see Table 17-1). However, teachers and observers agreed on nine of the 10 variables for which data were available for both groups. Both saw attachment students as quieter, more helpful, better behaved, better motivated, more intelligent, better workers, less active, and less attentive, and both had higher percentages of positive statements made about attachment students. These variables form a stereotype or halo of the "good student," who is bright, attentive, well motivated, and well behaved. Note that they all were directly related to the student role and to student relationships with teachers. None involved purely personal attributes or peer interaction variables.

Variables for which data were available only for teachers indicated that teachers also saw attachment students as higher achieving and as more likely to come from good homes. However, the students low in attachment, while ranked lowest on every other adjective description variable showing a significant effect for the teachers, were ranked in the middle for teacher perceptions of the quality of the home. In addition, the students low on attachment were seen as underachievers and as likely to be untrustworthy.

Taken together, these data from the teachers indicate that they may have been using the "norm of deserving" (Staub, 1974) in forming attachments, and especially in developing attitudes of dislike toward students. That is, perhaps the teachers adjusted their attitudinal response to particular student behavior according to other information they had about the students. Such information would provide extenuating circumstances to soften the impact of negative behavior in some cases, but would make the same behavior even more aggravated in other cases, if the student were seen as having "no excuses." More specifically, perhaps the teachers were less likely to rank students consistently low on attachment if they knew that they came from broken homes or other difficult backgrounds, and more likely to rank them low if they saw them as underachieving (achieving less than they could achieve because they were not motivated enough to try) or as untrustworthy (deliberate liars and cheaters).

Studies in social psychology have shown the "norm of deserving" can make a difference in whether or not someone shares possessions or prizes with others. Sharing is more likely if the other person is seen as more deserving for some reason, or if the people with resources to share believe that they acquired them through luck or accident and thus do not deserve to have them because of their own efforts or good qualities. In contrast, where people believe that they have earned and thus deserve resources, and especially where they believe that others do not deserve them because they have not earned them, sharing is unlikely. Thus, willingness to share depends partly upon perceptions of self and others with reference to whether or not resources are "deserved."

Similar thinking may have been involved here. The teachers perceived themselves as adults fully responsible for their behavior, or at least much more responsible than the students, who were children only partially capable of self-

control. Those who were seen as suffering from external pressures that were no fault of their own (such as broken homes) might have been seen as less deserving of rejection than those who behaved equally obnoxiously without "excuses." Similarly, students seen as behaving unacceptably deliberately (which is implied in the teachers' perceptions of underachievement and untrustworthiness) may have been seen as especially deserving of rejection compared to students perceived as achieving below their potential because they were immature or lacking in self esteem, and compared to students seen as untrustworthy because of immaturity or fear rather than deliberate lying and cheating. We will evaluate these possibilities in examining the other data.

The adjective description data showed disagreement between the teachers and the observers on responsible. The teachers showed the typical pattern seeing attachment students as highly responsible and those ranked low on attachment as least responsible. The observers also had a significant group effect, and also saw the students ranked lowest on attachment as least responsible. However, students high on attachment were ranked in the middle rather than at the top. With previous scales, when the teachers and observers disagreed on responsibility, the observational data usually supported the teachers by suggesting that the students seen as less responsible were less responsible. We will examine this as well.

Checklist Variables

Significant group effects for attachment appeared for all checklist variables except passive and unemotional (see Table 47-2). Attachment students were seen as most likely to have good peer relations. Students ranked low on attachment were seen as least likely to have good peer relations, and also as boisterous and disruptive, having poor peer relations, low in self esteem, and clumsy

and lethargic. As with the checklist data for many other scales, these relationships make sense, but also suggest halo effect. In particular, the perception of low attachment students as having low self esteem does not mesh well with the adjective descriptions of these students as active, underachieving, or untrustworthy. Students with truly low self esteem probably would not be capable of such behavior. Instead, they probably would be more passive and withdrawn, but no data suggest this. Thus, the self esteem difference may reflect halo effect carrying over from other differences. The same is true for clumsy and lethargic. However, it also is possible that both of these were related systematically to teacher attachment.

Classroom Interaction Variables

Significant group effects for attachment appeared for 43 of a possible 156 variables, a high percentage. Many of them showed differences between all three groups, with the students low in attachment being significantly different from the general mean one direction, and the students high in attachment being different in the other direction. Where the group effect was due primarily to one of the two extreme groups, this occurred about equally often for low attachment and high attachment students. Thus, in general, the group effects for the attachment scale reflect differences all along the scale.

Significant group differences in attachment appeared in all categories, but especially the private, non-work contact categories and the behavior related categories. In fact, there were more significant group effects in the behavior categories for attachment than there were for cooperation, even though cooperation deals directly with behavior. As we will see, the differences were mostly teacher emotional responses to students and student emotional responses to teachers.

1. Total Response Opportunities. Low attachment students had high rates of contacts with the teachers, and high attachment students had low rates (164). The groups also differed in their relative proportions of private and public contacts, along the same lines seen earlier for other scales. A greater proportion of the contacts of high attachment students were response opportunities (1). Also, a smaller percentage of the total private work contacts of high attachment students were private ones (37), and this effect was exaggerated slightly when approval seeking contacts were included (38).

These data suggested that high attachment students volunteered to answer questions in public response opportunity situations more often than low attachment students, and that the teachers initiated more private contacts with low attachment students as a way to compensate as well as to monitor their behavior and work progress.

2. Response Opportunities in General Class Activities. High attachment students had more general class response opportunities than average, and low attachment students had fewer (141). Furthermore, high attachment students got more of their general class response opportunities through volunteering (21), and fewer by being called on as non-volunteers (18). The reverse was true for low attachment students. These data suggest that the differences in frequency of public responses were due to differences in student volunteering rates. Teachers reacted to the low volunteering rates of low attachment students by calling on them as non-volunteers more often, but not enough to equalize participation in general class activities.

3. Response Opportunities in Small Group Activities. The data for small groups show the same findings for volunteering as the data for the class as a whole: high attachment students got more response opportunities as volunteers and fewer as non-volunteers, and the reverse was true for low attachment students (4, 7). High attachment students also were praised more frequently when they did respond as non-volunteers in the small group context (5). Low attachment students were about average here, and those in the middle on attachment were below average.

This finding contrasts with several other findings concerning teacher praise of good answers in non-volunteer situations. Typically, the teachers praised the group that did not volunteer often when they did respond correctly in non-volunteer situations. The present finding was reversed. This could have been because the teachers liked the high attachment students and did not like the low attachment students. Thus, this is one place where teachers' attitudes may have produced differential treatment of attachment students, something that has not occurred often.

However, favoritism may not have been involved here. Perhaps high attachment students were called on as non-volunteers mostly when the teachers had asked especially difficult questions. If so, their answers in these situations would have been especially "praiseworthy," and teacher praise would reflect this, rather than favoritism.

In summary, the data for public response opportunities showed that attachment students volunteered frequently and that students ranked low on attachment did not. The teachers countered by calling on the low attachment students as non-volunteers more often, but they did not praise these students more often when they answered well in these situations (as they did with students ranked in the undesirable direction on other scales). Instead, they showed the opposite

tendency: more praise for good answers in non-volunteer situations by the high attachment students. This could indicate favoritism of attachment students. In any case, it conflicts with the typical pattern seen on other scales.

4. Private Work Contacts. The teachers initiated more work contacts with low attachment students that resulted in criticism, and fewer such contacts with high attachment students (160). In related findings, low attachment students had higher proportions of teacher initiated work contacts which involved criticism (42), and higher proportions of such work contacts in which the students made negative reactions to the teachers (44). High attachment students had lower scores on these variables. Thus, the teachers criticized low attachment students for poor work more often when they initiated interactions with them to discuss their work, and low attachment students responded negatively more often to this teacher criticism. This indicates a pattern of mutual hostility between the teachers and low attachment students, as well as better than average relationships between the teachers and the attachment students.

The proportion of total work contacts which involved teacher criticism also was higher for the low attachment students and lower for the attachment students (133). There were no differences in student initiated contacts, so this difference is due to differences in criticism rates in contacts that teachers initiated themselves. However, two differences did appear among the student initiated work contacts. These elaborate the pattern of teacher-student relationships already observed. When low attachment students initiated work contacts, they were more likely to be refused, and high attachment students were less likely to be refused (99). Also, a greater proportion of the student initiated work contacts of low attachment students involved teacher impatience.

(104). These data extend the pattern of good relationships with high attachment students and poor relationships with low attachment students seen already.

5. Private, Non-work Contacts. Teachers initiated more interactions with low attachment students and fewer with attachment students (142). In addition to this difference in total teacher initiated contacts, data on subtypes indicate that the difference was due mostly to higher rates of teacher initiated work (143) and personal (145) contacts with low attachment students. These data indicate that the teachers felt it necessary to monitor these students more closely, both to keep track of their work progress and to give specific instructions concerning self care and general responsibility. The latter finding provides some support for the teacher perceptions of low attachment students as less responsible.

Despite the differences noted above for teacher initiated work contacts, the percentage of total contacts with teachers which involved non-academic matters was higher for the low attachment students and lower for the high attachment students (39). Also, although there was no significant difference in frequency of teacher initiated housekeeping contacts (144), the percentage of teacher initiated contacts which dealt with housekeeping was low for the low attachment students and a little above average for the high attachment students. These data also fit with teacher perceptions of student responsibility. The teachers sought out the low attachment students for individualized contacts more frequently, but they were relatively unlikely to ask them to perform housekeeping tasks.

Other data relating to teacher perceptions of student responsibility and the general willingness of the teachers to let students do what they wanted

to do were seen in differences for housekeeping and personal contacts. The teachers were much less likely to approve and more likely to refuse a housekeeping request from a low attachment student than from a high attachment student (114, 115), and the same was true for student initiated personal contacts (120, 121). Thus, in general, the teachers kept a tight rein on the low attachment students, often initiating interactions to inspect (and frequently criticize) their work or to order them to do something, but seldom approving their requests. They had the opposite pattern of interactions with the high attachment students.

The last two significant group effects in this set further elaborate the contrasting pattern of relationships between the teachers and the students ranked high or low on attachment. The percentage of teacher initiated personal contacts with students which included negative student reactions was high for the low attachment students but below average for the high attachment students (55). Here again, low attachment students responded negatively when the teachers tried to tell them what to do.

The final group effect here is a curious one concerning student initiated personal requests which not only were approved by the teachers, but were approved in ways suggesting that the student was being rewarded. The data for this variable indicated that the low attachment students had the highest mean, followed by the high attachment students, and then the students ranked in the middle on attachment. By itself, this seems to suggest that the teachers were trying to motivate or win over the low attachment students. They probably were, to some extent. However, it should be kept in mind that they usually refused the personal requests of these students, and that most students probably would rather have their requests approved without fanfare than have the majority disapproved

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but have some approved with fanfare.

In any case, this last variable may indicate a degree of ambivalence, rather than unbridled hostility, in the teacher attitudes toward students ranked consistently low on the attachment scale. Another possibility is that this was a control/teaching device. Given that low attachment students usually were refused (presumably for cause), perhaps the teachers approved them with fanfare (when they did approve them) as a way to try to reinforce desired behavior.

6. Behavior Related Contacts. The teachers had unusually high frequencies of behavior related contacts with the students ranked low in attachment, and lower than average rates of behavior contacts with the students ranked high on attachment (147, 60). Furthermore, the low attachment students misbehaved more disruptively and more seriously as well as more often. The percentage of their behavior contacts which occurred for non-disruptive behaviors was relatively low (62), and the percentages which involved disruption (63) or aggression or defiance directed at the teacher (64) were higher. The reverse was true for students ranked high on attachment.

In addition, the low attachment students had higher rates, and the high attachment students had lower rates, of misbehavior involving cheating, copying, or other violations of trust (67). These data indicate that frequent and serious misbehavior was one major reason for low ratings on the attachment scale, and they also provide some support for the teacher perceptions of low attachment students as untrustworthy. Conversely, they indicate that at least minimal compliance with classroom rules is necessary for teacher attachment, although teachers do not automatically become attached to all students who are obedient.

Several differences appeared for data relating to teacher reactions to misbehavior. Most of these occurred mostly because the teachers were especially unlikely to react negatively toward students ranked high on attachment. Often, the means for students low on attachment were at or only slightly above the means for students in general, but the means for attachment students were notably below the general means. Thus, when they did misbehave, high attachment students were unlikely to be warned (71, 80, 83), and unlikely to be threatened, criticized, or punished (73, 81).

Thus, differences in teacher attachment as they related to teacher reactions to misbehavior showed themselves more in the teacher reactions to high attachment students than low attachment students. As with uncooperative students, teacher reactions to misbehavior by low attachment students appeared to be mostly in proportion to the misbehavior involved. Even though there was a general pattern of mutual negativism between the teachers and the low attachment students, there was no tendency for the teachers to regularly be negativistic, hypercritical, or punitive toward low attachment students.

In contrast, the teachers were notably pleasant and free of frustration or anger when they reacted to misbehavior by high attachment students. No doubt, this was partly because such misbehavior was both infrequent and milder than the misbehavior of low attachment students. Even so, teacher attachment showed itself in the relative absence of negative reactions to misbehavior by attachment students. Recall that this was not true with cooperative students. When these students misbehaved, the teachers tended to respond with warnings. In contrast, they apparently responded merely with management requests in similar situations with attachment students.

Other group differences in this section relate to teacher and student emotional responses to one another. High attachment students had a notably low percentage of behavioral contacts with the teachers which were of a negative nature, while the percentage for low attachment students was above average (74). This relates to the considerations just discussed. Also, low attachment students were especially likely, and high attachment students especially unlikely, to respond sullenly when disciplined (76). The same difference was observed for negative teacher reactions, although it was not as large (137). The teachers were more likely to respond negatively in some way during a private contact with low attachment students than they were in a private contact with a high attachment student.

Also, the teachers were especially likely to hold up low attachment students as bad examples to the rest of the class, and less likely to do this with high attachment students (150). In contrast, they were a little more likely than average to appoint high attachment students to be classroom monitors, but were especially unlikely to do this with low attachment students (148).

Summary for Attachment

The attachment scale produced an unusually large number of significant effects, and a large proportion of these had to do with behavior related contacts and teacher and student emotional reactions. Differences on the attachment scale for these variables were even greater than the differences for the cooperative scale. Teachers and observers agreed in seeing the high attachment students as model students conforming to the idealized student role, and low attachment students as the opposite. In addition, teachers also saw low attachment students as underachieving and untrustworthy. The observational data

supported these teacher perceptions. Low attachment students misbehaved much more often and more intensively than average, and they apparently needed a tighter rein on them to make sure that they were doing their work and progressing properly.

Indications of teacher attachment were observed, but they were relatively subtle. Attachment students were appointed as class monitors more often, were assigned housekeeping duties more often, and had higher percentages of their housekeeping and personal requests approved. They also volunteered for and received response opportunities more frequently, both in general class situations and in the small group situations.

However, no measure of either student or teacher positive response showed a significant group effect. The absence of findings in this area replicates previous work reporting no obvious strong positive emotional reactions on the part of either these students or the teachers. Attachment appears to show itself in more frequent contacts and in the absence of the negativistic teacher reactions seen with low attachment students.

To put this another way, teachers do not typically show their attachment in obviously positive ways. They show it through subtle favoritism, treating attachment students pleasantly and interacting with them in ways that suggest recognition of their maturity and responsibility. In particular, they treat these students with respect, even when they misbehave (which is less often than average).

Low attachment students misbehave more frequently and more intensely than students in general. They react negatively to the teachers, and the teachers mostly react negatively to them. Here again, though, the frequency and size of group differences relating to teacher negative affect were low.

The teachers did not show a general pattern of punitiveness or very obvious hostility toward low attachment students, although they did become frustrated and angered with these students more often than with other students.

Also, just as high attachment showed itself in the absence of negative reactions, low attachment showed itself in the absence of positive reactions. Students low on other scales often showed a mixed pattern, in which the teachers appeared to be trying to deal with them by going out of their way to motivate them, reinforce them, be pleasant with them, or initiate social interactions with them. Only one such relationship appeared for the low attachment students, and even this one did not appear very likely to affect low attachment students positively.

Thus, as with the students who avoided eye contact and the unhappy students, the teachers were primarily negativistic in their emotional responses to low attachment students, although the differences were not extreme. All in all, the data for attachment provided further support for previous findings suggesting that high attachment is not acted out very obviously in teacher behavior, but that low attachment is.

Concern

Significant group effects for the concern scale were relatively infrequent, compared to most scales and to our prior expectations, but they provided an interesting and somewhat unusual pattern of relationships. Teacher rankings and observer ratings of concern correlated .46, indicating good agreement. For both groups, the concern scale was part of the general halo pattern, correlating generally negatively with other scales. The only exception was a low positive correlation between concern and noticeable for the observers

(the teachers had a low negative correlation).

Concern was related most highly (negatively) in the teacher rankings to careful, achieving, mature, cooperative, persistent, and attachment. The observer ratings followed the same general patterns. Partial correlations of the teacher rankings on concern indicated significant negative relationships with achieving and cooperative. No other partial correlations were significant. The relationship with achievement was expected on the basis of earlier data suggesting that poor achievement was the primary reason for teacher concern. The relationship with cooperative indicated that classroom conduct was related to teacher concern ratings, as well. As we will see, this was reflected in the pattern of group relationships observed for the concern scale.

Adjective Description Variables

Significant group effects for concern appeared for only 10 of a possible 37 teacher variables and eight of a possible 31 observer variables (see Table 17-1). Data were available for both groups on nine variables, and these showed agreement on seven and disagreement on two. The teachers and observers agreed in seeing concern students as poorly motivated, less intelligent, low in achievement poor in work habits, active, and temperamental. In addition, both groups had low percentages of positive statements made about concern students and high percentages made about students ranked low on concern.

Data available for teachers only indicated that they also saw concern students as likely to come from poor home backgrounds and as likely to have medical problems. Observers saw concern students as unlikely to be bossy

in their peer relationships. The general pattern here suggests that concern students had difficulties in coping with school demands because of limited ability and poor work habits, and that they were generally immature in their frustration tolerance and peer relationships.

Disagreements appeared for inattentive and attractive. The teachers had a significant group effect for inattentive, seeing concern students as most inattentive and students low on concern as most attentive. Observers had no group effect and disagreement about the attentiveness of students ranked low in concern. These students had the highest mean for inattention in the observer data, even though they had the lowest mean in the teacher data. The classroom observation data will be examined with an eye toward resolving this discrepancy.

The difference on attractive involved complete disagreement. The observers had a significant group effect, in which concern students were seen as least attractive and low concern students as most attractive. There was no significant group effect in the teacher data, although, surprisingly, the concern group had the highest mean for attractive and the low concern group had the lowest mean.

The teacher data generally conformed to what was expected on the basis of correlations between concern and the other scales. Group differences were focused on matters relating to achievement, cooperation, and personal and home background factors related to these student attributes. The main additions were that the teacher perceptions for temperamental and the observer perceptions for bossy suggested that concern students were generally immature.

They were seen as more likely to "fall apart" in the face of frustration and as likely to be followers or isolates in the peer group.

Checklist Variables

Significant group effects for concern were obtained for all checklist variables except passive and unemotional (see Table 17-2). In each case, concern students were at one end of the variable and low concern students were at the other. Concern students were seen as more boisterous and disruptive, as having poorer peer relations, and as being more clumsy and lethargic. They also were seen as less likely to have good peer relations and as more likely to have low self esteem.

The differences in perceptions of boisterous and disruptive behavior fit with the other perception data, and the differences concerning peer relationships and self esteem extend and elaborate the picture of concern students as generally immature and unable to cope successfully.

Classroom Observation Variables

Significant group effects for concern were obtained for only 24 of a possible 159 classroom observation variables. However, several interesting and unusual relationships were involved here.

1. Total Response Opportunities. Contrary to expectations, there was no significant group effect for total contacts with the teacher (164). Concern students did have a higher mean, and low concern students a lower mean,

but the group effect was not statistically significant. This contrasts with most previous findings indicating higher rates of interaction with teachers as a consistent correlate of concern. The differences here were in the right direction, but they were not significant.

Differences in types of interactions followed a familiar pattern. A lower proportion of the total interactions of concern students were public response opportunities and the reverse was true for low concern students (1). Also, a higher proportion of the total work contacts of concern students were private contacts, and this effect was exaggerated slightly when approval seeking contacts were included. Thus, high concern students apparently were less likely to volunteer for (and receive) public response opportunities.

2. Response Opportunities in General Class Activities. Concern students received fewer general class response opportunities, and low concern students received more (141). This probably was because low concern students volunteered more often than concern students (21), so that concern students were called on as non-volunteers more often (18). This is the same pattern seen with several other scales, in which teachers respond to low volunteering rates by certain students by calling on these students as non-volunteers more often. As is typical, however, this teacher behavior did not equalize response opportunities in general class situations.

3. Response Opportunities in Small Group Activities. The same differences were seen in the small group context, where concern students got more response opportunities as non-volunteers and fewer as volunteers (4, 7). Thus, they

apparently were less likely to volunteer to respond in the small group context as well as in the general class context. This same general trend appeared for every scale that showed differences in student volunteering rates, indicating that there was no context difference in relative likelihood of volunteering to answer questions. In general, there were few group effects for concern in the public response opportunity data, and they indicated only that concern students apparently volunteered less often and were called on as non-volunteers more often. There were no differences in teacher praise or criticism of responses.

5. Private Work Contacts. There was only one significant group effect here: the proportion of private contacts initiated by students was lower for concern students (97). As we will see in the next section, this was because the teachers initiated more contacts with concern students than with other students. Perhaps the most interesting results for concern here are the group effects that did not appear. There was no evidence that teacher concern showed itself in greater willingness to listen to and provide feedback concerning the problems of the concern students. There were no effects suggesting less criticism, more praise, greater patience, or other teacher responses to student initiatives usually thought of as behavioral indicators of concern. So far, in fact, none of the group differences reported has dealt with emotionality in either the teachers or the students.

5. Private, Non-work Contacts. Although the total number of teacher contacts with concern students did not show a significant group effect (164),

the teachers did initiate more interactions with concern students (142), and in particular more work related interactions (143). These data replicated findings of previous studies, although the group effects were not as strong as we expected.

The teachers also initiated more social contacts with concern students, and fewer with students ranked low on concern (57). Finally, concern students were especially likely to be praised when they initiated contacts with the teachers to discuss work or to seek approval for completed work (111). These data were more like what we expected from previous findings relating to teacher concern. The teachers initiated more work and social interactions with concern students, and they praised these students more often in student initiated contacts relating to work or approval seeking. All of this is consistent with the picture of concern students as limited in ability and in need of assistance and encouragement.

6. Behavior Related Contacts. Almost half of the significant group effects for concern were for the behavior related contacts. This was not surprising given the correlation between concern and cooperation in the teacher rankings in the present study, but it does not fit the picture gleaned from previous studies that teacher concern is focused primarily on low achievers rather than on students who misbehave. In the present study, the teachers had more behavior contacts with concern students and fewer with students low on concern (147, 60). The differences here were not as extreme as for cooperative, attachment, and certain other scales, but they were statistically significant. Thus, for these teachers anyway, misbehavior was part of the reason for concern, along with low achievement.

Although concern students misbehaved more often, they did not misbehave more disruptively or aggressively. Most of their misbehaviors were "typical" misbehaviors involving inattention or socializing when they were supposed to be working. This provided some support for the teacher perceptions of concern students as inattentive.

There were several significant group effects for variables dealing with teacher reactions to misbehavior, however. Students low on concern were likely to provoke only management responses when they misbehaved, in comparison to other students (79, 82). Also, these students low on concern were unlikely to receive warnings from the teachers (71) or to be threatened, criticized, or punished (73, 81, 84). Note that all of these effects were due to the absence of negative teacher behavior toward the low concern students.

The high concern students were no more likely than students in general to receive negative reactions from the teachers. The teachers may have been "holding back" with these students, because they saw them as immature and disadvantaged. However, it should be remembered that these students behaved more often but not more intensively, and not in ways that directly threatened or defied the teachers. In any case, the teachers' reactions to misbehavior by the low concern students showed the same absence of negative responsiveness that their reactions to misbehavior by the high attachment students revealed. Also, even though concern students misbehaved more frequently than students in general, teachers usually did not react with negative affect when disciplining them.

Apparently, part of the reason for the lack of negative responsiveness toward low concern students even when they misbehaved was that these students

were unusually teacher oriented and compliant. They had very low rates of behavioral contacts involving negative affect, and low rates of sullenness (74, 76). Concern students were above average in sullenness during disciplinary contacts, but not by much. Even so, this makes the absence of negative teacher affect directed toward these students all the more interesting and remarkable, and makes it seem more likely that the teachers were deliberately "holding back" when they disciplined these students.

The only finding that indicated negative teacher behavior toward concern students was a teacher tendency to hold these students up as bad examples to their classmates (150). They did this less frequently than average with low concern students, so that the group effect was significant, even though the mean differences were not large.

Summary for Concern

The teachers and observers agreed in seeing concern students as having difficulties in coping with school demands and also as being behavior problems. In addition, there were indications that these students were somewhat immature and unable to cope successfully with stress and frustration. They also were perceived as inattentive by the teachers.

These perceptions all were confirmed by the observational data. Significant group effects were obtained for only 25 of the classroom observation variables, but they conformed closely to the perception data. Concern students apparently volunteered to respond in public situations infrequently, and they were called on as non-volunteers more often. They misbehaved more frequently, and they appeared to require close monitoring by the teachers.

This led to the expected higher frequencies of teacher initiated work contacts with concern students, although the differences were not as large as expected, and the group effect for total contacts with the teachers was not significant.

The concern data are interesting because many of the group effects were caused by teachers' tendencies to be especially calm and unemotional when disciplining students ranked low in concern (on these occasions when these students misbehaved). The teacher reactions to misbehavior by concern students also are interesting, in that they do not reveal frustration or anger. This was true even though these students misbehaved more often than average, and even though they reacted sullenly to discipline by the teachers slightly more often than average. It may be that the teachers were making special efforts to be patient and encouraging with these students, because they were aware of their difficulties. Also, although the concern students misbehaved more often, they did not misbehave in disruptive ways or in ways that involved aggression or defiance of the teachers, so that they did not tend to provoke negative responses in the teachers.

Notable for their absence were findings indicating positive expressions of concern by the teachers. Except for a greater willingness to praise concern students when they initiated interactions for work discussions or for approval seeking, there was no evidence that the teachers expressed their concern in any way other than by monitoring of these students more closely than they monitored other students. The teachers showed no general tendencies to praise more often, criticize less often, be more patient, or otherwise act as if they were continually conscious of a need to treat these students differently.

Conclusion

Both the attachment data and the concern data contained some surprises. As others have found, the students consistently ranked high on attachment tended to be model students. There was a little evidence of favoritism toward attachment students, but no evidence of strong positive emotions. However, students consistently ranked low in attachment not only had problems coping with their school work and keeping school rules, but were perceived as irresponsible, underachieving, and untrustworthy. These teacher perceptions were supported by the observational data. Low attachment students misbehaved more often and more disruptively and defiantly than other students, and they were more likely to misbehave in ways that involved violations of trust. They also were slightly more sullen and negativistic toward the teachers than most other students. Not surprisingly, teachers tended to react negatively to them, particularly during behavioral contacts. This same general pattern has been seen in previous studies of rejection students.

However, the differences in teacher responsiveness in disciplinary situations were due more to teacher behavior toward the attachment students than toward the students ranked low on attachment. Even though the teachers did not act out attachment in positive ways by praising the attachment students more often or expressing positive affect toward them more often, attachment showed up in disciplinary situations. The teachers did not react negatively to the misbehavior of attachment students. When these students did misbehave, they provoked only management responses. They seldom were warned, threatened, criticized, or punished.

Even so, the data for students consistently ranked low in attachment indicated that these students provided consistent and intensive stresses upon the teachers through frequent and intense misbehavior and failure to apply themselves and/or to progress satisfactorily in their school work. Consequently, the teachers monitored them unusually closely, initiating many work related and personal interactions and intervening often to discipline them for misbehavior. With minor exceptions, the general pattern of interactions between the teachers and these low attachment students was negative, indicating that these students did not like the teachers, and the teachers did not like these students.

The findings for concern were surprising in certain respects as well. In particular, the teachers in the present study were most concerned about students who combined poor achievement with frequent misbehavior, not students who merely were low in achievement. However, analysis of the misbehavior of concern students indicated that, although it was frequent, it was neither disruptive nor threatening to the teachers. This, in combination with other data suggesting that concern students were unusually temperamental and subject to frustration, suggests that concern students were immature and teacher dependent rather than disobedient and defiant. Most of the behavior contacts that teachers had with them probably were due to inattention or failure to persist at work rather than to more serious misbehavior.

As expected, the teachers often initiated work interactions with the concern students, although this difference was not as large as expected on the basis of previous studies. Furthermore, there was little evidence of a generalized pattern of concern showing itself through more frequent interactions

and through interactions marked by praise, criticism, patience, willingness to be interrupted, or other indicators of special concern. The only special treatment observed was closer monitoring of the work of these students and higher rates of calling on them as non-volunteers (apparently because they did not volunteer very often).

Some unexpected and interesting findings appeared for the students ranked consistently low on the concern scale. Just as was the case with students ranked high on attachment, the teachers were unlikely to respond negativistically to misbehavior by the low concern students. No doubt, part of this was because the students misbehaved less often and less intensively. Even so, this pattern was unusual. It suggests that relationships between the teachers and the students consistently ranked low on concern might have been particularly positive, rather than neutral, as the term "low concern" connotes.

Also, even though the concern students misbehaved more often, the teachers were about average in their frequencies of simple management reactions versus more negative reactions involving warnings, threats, criticisms, or punishments. This was true even though these students were a little more likely than average to respond sullenly to teacher disciplinary efforts. These data suggest that the teachers were striving to be patient and restrained in their treatment of concern students, most probably because they saw them as limited in ability and burdened by difficult home backgrounds, medical problems, or other difficulties that tended to provoke pity rather than anger. The "norm of deserving" apparently was involved here. Low attachment students, who were

perceived as irresponsible and untrustworthy, were treated negativistically by the teachers, but concern students, who were perceived as handicapped by difficulties not their own fault, were treated with kid gloves.

Table 16-1. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Attachment Scale.

<u>Adjective Description</u>	<u>Teachers Group</u>				<u>Observers Group</u>			
	<u>Low</u>	<u>Med</u>	<u>High</u>		<u>Low</u>	<u>Med</u>	<u>High</u>	
4. Quiet	3	<u>2</u>	<u>1</u>	*	3	2	1	
5. Helpful	3	<u>2</u>	<u>1</u>	**	3	<u>2</u>	<u>1</u>	**
6. Well-behaved	3	2	1	*	3	2	1	**
8. Motivated	3	<u>2</u>	<u>1</u>	***	3	2	1	
9. Intelligent	3	2	1	***	3	2	1	***
10. Achieving	3	2	1	***	-	-	-	
11. Good Worker	3	2	1	***	3	<u>2</u>	<u>1</u>	***
14. Responsible	3	2	<u>1</u>	**	3	<u>1</u>	2	*
15. Active	<u>1</u>	2	3	***	<u>1</u>	2	3	**
17. Inattentive	1	2	3	**	1	2	3	
28. Good Home	2	3	<u>1</u>	***		NA		
33. Underachiever	1	2	3	*		NA		
35. Untrustworthy	<u>1</u>	2	3	**		NA		
40. % Positive	3	2	1	***	3	2	1	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 16-2. Rank-Ordering of Group Means on Behavior Checklist Variables for
Students Perceived Consistently on the Attachment and Concern Scales.

Variable Name	Attachment				Concern			
	Low	Middle	High		Low	Middle	High	
1. Boisterous, Disruptive	<u>1</u>	2	3	***	3	<u>2</u>	<u>1</u>	***
2. Passive, Unemotional		NS				NS		
3. Good Peer Relations	3	2	<u>1</u>	***	<u>1</u>	2	3	***
4. Poor Peer Relations	<u>1</u>	3	2	***	3	2	<u>1</u>	***
5. Low Self-Esteem	<u>1</u>	2	3	***	3	2	1	***
6. Clumsy, Lethargic	1	2	3	*	3	<u>2</u>	<u>1</u>	**

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 16-3. Rank-Ordering of Group Means on Adjective Description Variables
for Students Perceived Consistently on the Concern Scale.

Adjective Descriptions	Teachers Groups				Observers Groups			
	Low	Med	High		Low	Med	High	
8. Motivated	1	2	3	*	1	2	3	*
9. Intelligent	1	2	3	***	<u>1</u>	<u>2</u>	3	***
10. Achieving	1	2	3	***	1	2	3	**
11. Good Worker	1	2	3	***	1	2	3	*
15. Active	3	2	1	**	3	<u>2</u>	<u>1</u>	*
17. Inattentive	3	2	1	*	1	3	2	
18. Temperamental	3	2	<u>1</u>	*	3	2	1	
26. Attractive	3	2	1		<u>1</u>	<u>2</u>	3	*
28. Good Home	<u>1</u>	2	3	**		NA		
30. Medical Problems	3	2	1	**		NA		
39. Bossy		NA			<u>1</u>	<u>2</u>	3	*
40. % Positive	1	2	3	***	1	2	3	***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

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Appendix A

BACKGROUND FOR THE STUDY

The primary goal of the Student Attribute Study was to broaden and deepen knowledge about the relationships between teachers' perceptions of students and the actual attributes of those students. There is no obvious "best way" to do this, although previous work by ourselves and others provided a basis for making educated guesses.

What we needed most was objective information about student characteristics or about their interaction patterns in classrooms. If we obtained this kind of information, we could use it to "anchor" or provide reference points for evaluating other data known or suspected to be open to halo effects, logical errors, or other perceptual distortions. This would clear the way for possibly resolving some of the ambiguity in previous research, where it is difficult to determine whether findings resulted from student effects on teachers, from biased teacher perceptions and treatment of students, or from some combination of these or other factors.

Impression Formation and Interpersonal Perception

We began with several general assumptions based upon theory and research on impression formation and interpersonal perception. These provided guidelines about what could be expected and how findings could be interpreted. Some of the more fundamental principles included the following.

Social Attractiveness

Numerous studies have indicated that certain personal characteristics are associated with favorable impressions and popularity. Other characteristics are associated with unfavorable impressions and social rejection. In general,

people are likely to be perceived positively if they have such qualities as physical attractiveness, optimism, friendliness, and liking for and interest in other people. People tend to be disliked if they have qualities such as hostility, suspiciousness, jealousy, or a general mistrust of others. We expected that these same relationships would be seen in teacher-student relationship data, although we knew that teacher perceptions would be focused on those student characteristics related directly to the student role (performance at school, interaction with the teacher).

Roles

This points up one of the major ways in which teacher-student perception and interaction data differ from what might be expected from theory and research in social psychology generally. Teachers view students from within their roles as teachers, and students react to teachers from within their roles as students. Often, the teacher-student relationship as a whole is virtually limited to this role relationship. Neither part makes much effort to get to know the other on an individual basis or to expand the relationship beyond what is required. This is easy to see if you think back to the teachers you had in the past. Most likely, a few stand out as especially positive and influential, and perhaps a few others as repugnant. However, the majority will not be remembered very well at all. It is common for people to forget even the names and appearances of many of their teachers, even though they spent an entire school year together.

This in itself is an individual difference, both for teachers and for students. Some teachers stick so closely to the teacher role that students

become almost completely impersonal to them, distinguishable only by differential achievement and classroom behavior. Other teachers try to get to know each of their students personally. The same is true for students. Some want to get to know their teachers as individuals and want their teachers to know them. Others avoid their teachers and know or care very little about what they are like personally. These students tend to be the ones who make the least impression on teachers, and also the ones upon whom teachers make the least impression.

Similarity

In general, people like each other to the extent that they are similar in their general characteristics (Byrne, 1971). This similarity includes beliefs, attitudes, and expectations, as well as other things ranging from physical characteristics to interests to personal traits. Among the characteristics that typify most teachers is respect for the value of education, so it is not surprising that students who share this value are preferred by teachers.

More generally, we assumed that teacher-student similarity might help explain why certain students were liked by teachers or why certain students that most teachers would like were not liked by a particular teachers. For example, most teachers value a combination of achievement and conformity. They respond more positively to students who have these qualities than to students who are more interesting or creative in some ways but who cause problems due to misbehavior. Considerations like this can be helpful in interpreting some of the relationships between teacher perceptions, teacher attitudes, and teacher-student interactions, especially those that are

exceptions to general trends.

Reinforcement

A principle that overlaps considerably with the similarity principle is the reinforcement principle: students who reinforce teachers through successful achievement and positive personal responsiveness are more likely to be preferred than students who do not. Furthermore, students who not only fail to reinforce the teacher, but in effect punish them through poor achievement (especially poor achievement due to lack of effort) or personal rejection, are likely to be rejected by teachers. This is quite understandable. It is a classroom example of the more general principle that people tend to like others who provide them with reinforcements that they value.

Previous work, especially the study by Yarrow, Waxler, and Scott (1971), had shown this to be important in affecting the frequency of teacher-student interaction. We studied it systematically in the Student Attribute Study to see if it also was related to teacher expectations and attitudes.

We also wanted to study the relationships between teacher expectations for and attitudes towards students and the frequencies and types of reinforcement that they gave these students. It seemed reasonable to expect that teachers who had special preferences for certain students would reinforce them more frequently or intensely. This prediction was based in part upon the cognitive consistency principle.

Cognitive Consistency

Much theory and research supports the idea that people seek to achieve consistency and avoid inconsistency in their beliefs, attitudes, and behavior,

and that they will take action to eliminate any inconsistencies that they become aware of. In the case of teacher expectations or attitudes, the cognitive consistency principle would predict that teacher behavior towards students would be consistent with their expectations and attitudes. Achievement expectations should be communicated in comments and instructional methods. High expectation students should be taught in ways that suggest that the teacher expects them to succeed, and low expectation students should be taught in ways that suggest that the teacher is merely going through the motions without any genuine expectation that they will learn. Positive attitudes should show up in frequent and pleasant contacts; negative attitudes in infrequent and unpleasant contacts.

Causal Attribution

A special case of the cognitive consistency principle concerns attribution of the causes of events. It seems logical to expect that teachers who perceive students positively will tend to credit these students for the good things that they do and will fail to notice or will explain away the bad things. In contrast, with students they strongly dislike, they may be more likely to notice and criticize undesirable behavior but to fail to notice or give credit when the students do good things.

Teacher individual differences are involved here too, of course. Like people in general, some teachers accept personal responsibility for most of what happens, good or bad. Others take credit for the good but attribute the bad to external causes, or vice versa. Still others attribute virtually everything to external causes, neither taking credit for successes nor accepting blame for failures. It seems logical to expect that teacher

expectations and attitudes will show up more clearly in the classrooms of teachers who attribute outcomes to students rather than to themselves, and especially of teachers who form very strong expectations and attitudes.

Studying Consistently Perceived Students

These assumptions helped guide our research and explain many of our findings. However, they are of value mostly for considering the typical case rather than the exception. They cannot explain, for example, why students who look like typical "concern" students are treated with indifference or rejection, or why other students who ordinarily would appear in one of these other two groups appear in the concern group instead.

The Student Attribute Study was designed to get beyond generalities and explain the dynamics of teacher-student relationships more fully and satisfactorily. We had no hopes of being able to explain them completely, because we believe that allowance must be made for a degree of unpredictability due to the "chemistry" of relationships between individual teachers and individual students. Occasionally, the right combination of teacher and student will produce relationships which defy all theory and previous research. Dynamics of this sort probably can be explained, but only with knowledge about the unique personalities of the two individuals involved. We could not reach this level of explanation, but we did expect to get beyond the generalities listed above.

We relied primarily on two methods to develop "objective" data about students to use as anchor points for interpreting teacher perception data, classroom observer perception data, and all other data of questionable meaning.

One approach was to collect information on the classroom behavior of students and on the nature of teacher-student interactions. To this end, we developed an elaborate coding system. It was designed not only to record the frequency and types of dyadic contacts that teachers had with individual students, but also to record the affective nature (if any) of such interactions. Certain information about student classroom behavior independent of interactions with the teachers also was recorded.

A second approach, used successfully in an earlier study of teacher effectiveness (Brophy & Evertson, 1976), was to include consistency over time as a criterion for identification of target students. Rather than study just anyone (whatever students happened to be enrolled in the classes of teachers involved), we focused the study on students that we knew something about, based on reports by two different teachers.

Specifically, we focused on students who were perceived consistently across almost two years and by two different teachers on one or more of 13 personal attributes. Teacher self-report data were collected early, middle, and late in the first year of the study, and then again in the middle and at the end of the second year. The 13 scales measured student attributes that previous work had suggested as correlates of teacher expectations, attitudes, and behavior. These included the following:

Calm versus restless

Careful versus careless

Happy versus unhappy

Probable high achiever versus probable low achiever

Mature versus immature

Cooperative versus not cooperative

Attractive versus unattractive

Persistent versus gives up easily

Attachment (would like to keep in class again next year for the sheer joy of it) versus rejection (would like to have removed from class right now)

Concern (would like to have more time to spend with this student) versus low concern (does not feel that this student needs more time with teacher)

Noticeable versus not noticeable

Good eye contact versus avoids eye contact

By focusing our analyses on only those students who were perceived consistently across five sets of rankings by two different teachers on one or more of these 13 scales, we hoped to accomplish two things. First, the consistency across time and particularly across teachers increased the likelihood that the teachers' perceptions were accurate. Students perceived favorably by one teachers but unfavorably by another automatically were excluded from the "consistent" groups. This probably had the effect of eliminating most students whose unique qualities were matched or mismatched with those of particular teachers so that teacher perceptions of them were distorted. Thus, this consistency criterion (along with other data to be recorded later) enabled us to treat the teacher perceptions of the student "consistent" on these 13 scales as accurate.

The second advantage of the consistency criterion was that the classroom behavior and general personal traits of the "consistent" students probably were stable in the past and likely to remain so in the future, compared

to those of other students. Given that most teacher perceptions are accurate anyway, and that perceptions which are consistent across time and across different teachers are especially likely to be accurate, it follows that they probably are based on objective student characteristics and that these characteristics are stable. Otherwise, teacher perceptions would have changed.

Both of these methodological implications of studying students perceived consistently involve assumptions and inferences, but we believe that the logic behind them is sound. Furthermore, subsequent data (to be discussed) support the inference that these students actually were like the teacher said they were.

In summary, the Student Attribute Study involved methodological innovations developed to try to overcome ambiguities in previous research. One of the most important innovations involved the collection of longitudinal teacher perception data on the same students across two years. This allowed analyses to focus on students who were perceived consistently and therefore probably accurately.

The Teachers and Students

The Student Attribute Study was conducted in six elementary schools which are part of an urban school district. Students are bused for desegregation purposes beginning at the sixth grade, but elementary schools serving students in kindergarten through fifth grade are neighborhood schools with no students bused in. Because of de facto segregation in housing and neighborhoods, most schools in the city are predominately white Anglo, predominately Chicano, or predominately black. Chicanos are the only white

ethnic group well enough defined in cultural and residential patterns to be worth considering separately from whites generally. They make up about 18% of the population, with blacks accounting for about 12% and other whites the remaining 70%.

The schools involved in the study were overwhelmingly white Anglo in student population. There were a few black students, but not enough to analyze as a group. There were a few more (but still only a few) students with Spanish surnames, but most of these were anglicized. That is, they lived in predominately Anglo neighborhoods and spoke English as their primary or only language.

One school served a population which varied in SES from lower class to upper middle class. Its predominate orientation was upper middle class, however, because most of the students came from families connected with a large university situated nearby. Thus, on the average, students at this school were brighter and more oriented toward education than students in the other schools.

The other schools all were located in sections of town populated by working class Anglos. Few of the parents had college degrees, although most had finished high school and many had had vocational education. Most families were intact. The fathers typically worked at blue collar jobs or low and middle level white collar jobs. They were homogeneous in SES as well as in ethnicity. Most students came from homes that would be characterized as lower middle class or working class, with practically none from either clearly lower class or clearly upper middle class or upper class homes. Thus, the sample as a whole could be characterized as predominately white middle class, and, except for one predominately upper middle class school,

as lower middle class.

The teachers all were women varying in experience and age. Most were whites, although a few were blacks who had begun teaching in pre-dominately white schools several years previously as part of a "teacher crossover" plan to further desegregation. All teachers participated in the study voluntarily, although with varying degrees of enthusiasm. They were informed that the study concerned student attributes and how they affected teacher expectations, attitudes, and behavior, and they were briefed about the general design of the study and about what would be required of them. However, they never knew exactly what was being measured during classroom observations. Also, although they knew which students were being observed because they had been viewed consistently on one or more of the 13 scales, they did not know which scales were involved and thus could not have biased the results in any systematic way.

Originally, our plans called for a three-year study. The first two years were to be confined to collection of teacher rankings on the 13 scales, with the third year being what later became the second year. We decided to move up the classroom observations and other data collection on consistently perceived students to the second year, for several reasons. First, although cooperation was generally excellent everywhere else, the first year teacher rankings from one of the five schools originally included in the study were too fragmentary to allow continued research in that school. Relatively few teachers followed the time schedule and methods requested, and in later years their students would have been spread across many more classes, making it difficult and inefficient for us to follow them. Thus, the original plan

to study students in three grades at five schools during the third year of research was altered to a study of students in four grades at four schools during the second year.

A second consideration involved in the decision to change data collection plans was the attrition rate caused by students moving into or out of the schools involved. Students could be included in the study only if a complete set of teacher rankings was available on them from past data collection and if they were still present when classroom observations began. Thus, any students who moved into one of these schools after teacher rankings had been collected, as well as any students who moved out of these schools, had incomplete data about whether they were perceived consistently by their teachers. Attrition from these sources was not enough to make much difference after one year, but it would have cut down the sample considerably if we had waited another year.

A third factor was general uncertainty about where the students would be the following year. Busing of sixth graders into "sixth grade centers" had been instituted the previous year as a method of achieving desegregation below the junior high school level, and there was a possibility that busing at lower grade levels would be instituted the next year. This would have spread the students across even more classrooms, reducing and perhaps even eliminating the feasibility of the study.

In combination, these factors dictated a change in plans. The idea of collecting consistency data across three years and three different teachers was dropped, and we began the observational phase of the study in the second year. If anything, this was a blessing in disguise, because our data on

the students perceived consistently suggest that the criterion of consistency based on the five sets of teacher rankings from two different teachers was quite stringent. Students perceived consistently by two teachers did indeed have the personal characteristics which the teachers ascribed to them.

The observation phase conducted in the second year of the study involved 27 teachers, six in grade two, five in grade three, 10 in grade four, and six in grade five. The schools included the predominately upper middle class school and three of the four working class schools included originally. A fifth school, very similar to the other working class Anglo schools, was included in the second year because the older students in one of the working class schools were transferred to a neighboring school to relieve overcrowding. Fortunately, all were transferred to the same school, so that it was easy to follow them and feasible to code them in the classroom. Thus, despite the shift in schools, few students were lost for this reason.

Except for the problems encountered in one school, the first year cooperation was excellent. All of the teachers except three in one school (who were team teaching) taught in self-contained classrooms, and all of these teachers in self-contained classrooms were asked to participate. They all did participate, with teachers in grades one through four filling out the teacher ranking forms in the first year, and teachers in grades two through five doing it in the second year (along with the other things done in the second year). The teachers were paid \$25 for the time they spent filling out forms and being interviewed.

Data Collection

The data collection for the Student Attribute Study included five sets of teacher rankings, two sets of observer ratings, teacher adjective descriptions, observer adjective descriptions, classroom observation data, observer checklist data, and special information about students obtained from interviews with the teachers at the end of the second year.

Teacher Rankings

In the first year, the teachers were asked to rank all of their students on each of the 13 scales. To make sure that no one was left out, the teachers were provided with a complete class roster. The instructions and a sample scale are shown in Figure A-1.

The teachers found this procedure unduly cumbersome and time consuming. It was easy for them to rank students at the ends of the scales, but almost impossible for them to make meaningful rankings in the middles. We agreed with the teachers that attempts to make such fine distinctions were of questionable validity and thus not worth doing, so we simplified the procedure for the second year, substituting the form shown in Figure A-2.

Instead of attempting to rank order their entire classes, teachers placed students into one of seven categories (at the top and bottom of the page), three were placed in each of the next most extreme categories, four were placed in each of the next categories, and, finally, all of the rest of the students were placed in the middle category. The result was a seven-point rank order scale which allowed the most extreme students to be given

extreme scores but did not require the teachers to try to differentiate among those lumped together in the middle.

To get the data from the two years of study onto a common scale, rankings from the first year were converted into seven-point scales just like those from the second year. That is, the two students ranked highest on a scale were placed in the top category, then the next three, then the next four. Similarly, the two students ranked lowest were placed in the bottom category, followed by the next three, then the next four. All the students remaining then were placed in the middle category. At this point, the three sets of ranks from the first year were directly comparable to the two sets from the second year.

Observer Ratings

At the end of the second year, after observers completed their coding in a given classroom, they related each of the consistently perceived students on each of the 13 scales, using the form shown in Figure A-3. This rating scale was used in place of the more exacting ranking procedure, because observers had not had a chance to get to know the students nearly as well as the teachers. It was pointless to ask them to make fine discriminations when they lacked the knowledge needed to do so. This simple rating method allowed the observers to indicate which students had struck them as high or low on each scale.

The observers were required to rate the students on all 13 scales even though the students were consistent in the teacher rankings on only some of them. This was to insure that the observers' ratings were "blind."

They did not even know which scale(s) students had been perceived consistently on. We wanted to find out how closely the teachers' perceptions would agree with those of relatively uninvolved classroom observers whose perceptions were less likely to be affected by factors related to the teacher role but who at the same time had much less opportunity to get to know the students.

The observers were undergraduate and graduate level university students. A few had been education majors, but most were in psychology. They worked for the project and had no formal relationships with the teachers or school district involved. Few were acquainted with the teachers or students prior to the study, and the exceptions were assigned to classes where the teachers and target students were unknown to them. The observers knew the purpose of the study, but, like the teachers, they did not know which scale(s) on which the target students had been perceived consistently.

The ratings from the two observers were summed to get final scores. In cases where only one observer was able to make a rating, the rating was doubled to make it comparable to the scores derived by summing the ratings from two observers.

Identifying Target Students

The classroom observations and the other data to be described were focused on "target" students, selected because they were perceived consistently across time and across two different teachers on one or more of the 13 teacher ranking scales. Target students were identified immediately after the first teacher ranking data were collected in February of the second year. Thus, at the time, we had all three teacher rankings from

the first year and the first of the two teacher rankings from the second year. Our intention was to go through these quickly and eliminate students who were not consistent on any scale, so that we could concentrate our attention on the rest.

As it turned out, however, almost every student was consistent (by our definition) on at least one scale, so that we ended up observing almost every student for whom we had a full set of four rankings. This meant that we observed almost every student who had been present in his or her respective school at the beginning of the previous year when the first set of rankings were obtained and was still there in the middle of the second year. This came to 362 students in 27 classrooms, an average of more than 13 per class.

Classes averaged about 25 students each, so we studied about half of the students available. This, and the sheer size of the sample, leads us to believe that the students were representative of their respective schools. However, we do know that they differed from other students in their schools, because their families had been stable for two years. Their classmates who were not included in the sample were mostly those who had moved into or out of the schools during the time span of the study. However, none of the neighborhoods was changing notably in SES or related indicators. The people moving in were similar to those who moved out. Thus, these students seemed representative.

A few students were excluded because they were not taught in self-contained classrooms. Here again, no sample bias was involved. These students were assigned randomly to teachers, and the ones who happened to be assigned to teachers working in a team were excluded because we felt that their data

would not be comparable to data from students in self-contained classrooms. The latter presumably had more focused and personalized relationship with a single teacher.

All in all, the data seem generalizable to white working and middle class schools. It should be noted, however, that they might not generalize to upper middle or upper class schools or to schools populated primarily by non-white students or students serving well-defined white ethnic groups. This is particularly true of the data on sex differences, because these are known to vary by SES, race, and ethnicity. Finally, the data may not generalize directly to racially integrated schools, where race might be an important factor.

Examination of the teacher ranking data to identify target students was done by Dr. Brophy and two research assistants who were not involved in any other aspect of data collection. This insured that all members of the research team who observed in classrooms, rated the students, and interviewed the teachers were unaware of past teacher perceptions of target students.

Complete sets of four ratings were available on about 375 students. Of these, two failed to meet our consistency criterion on any of the 13 scales. Thus, almost all students were consistent on at least one scale, and most were consistent on several (see Table A-1). A few other students were dropped because they moved out of the school right when we were preparing to do classroom observations or because they had been assigned to a classroom where only two or three target students would be available. Given the large number of target students who were concentrated in greater

numbers. In other classrooms, it seemed inefficient to observe in classrooms where only a few target students were enrolled. Thus, we decided to concentrate on classrooms with larger clusters of target students (ranging from 7 to 14), thereby increasing the number of observations that could be made in each classroom.

Although target students who were identified for purposes of classroom observation in February, final classification was delayed until the fifth set of teacher rankings collected in May. At this point, students were classified into one of six categories based upon the five rankings they had received on a given scale. Each student received 13 classifications, one for each scale.

Recall that the scales were seven-point scales arranged so that few students were at the extremes and increasing numbers appeared at each scale point as you moved toward the middle. A score of "1" was lowest and a score of "7" was highest. Three groups of consistently perceived students were identified. These were students whose rankings remained within the low, middle, or high ranges of the scales on all five of the teacher rankings for that scale. Students consistently ranked "1," "2," or "3" were classified as low for each scale; students consistently ranked "3," "4," or "5" were classified as middle for each scale; and students consistently ranked "5," "6," or "7" were classified as high for each scale.

This arrangement meant that about a third of the students in each set of rankings were placed in the high and low categories, with the rest classified in the middle. On a given set of rankings, the middle category included all but the six lowest and six highest students. This usually was more than half the class. The overlap between high and middle (at "5")

and between middle and low (at "3") was allowed to reduce the shrinkage that occurred when the consistency criterion was applied across all five sets of rankings. The criterion for target student selection had to be sufficiently strict to insure that the low, middle, and high groups would be clearly different from one another, but not so strict as to exclude too many students. This method seemed to be a good solution to this problem.

If students varied randomly from one ranking to the next, their chances of being classified in either the low or the high groups would be only one in 243 (one third $\times$ one third $\times$ one third $\times$ one third $\times$ one third), or less than one half of one per cent. If this had been the case, we would have ended up classifying only about two students in each of the extreme categories on each scale. However, as can be seen in Table A-2, student ranking was far from random. Despite this fairly strict criterion for consistency, the numbers of students classified as consistent far exceeded chance in all three positions on each scale, and they were high enough to allow meaningful statistical analyses to be performed.

Most of the analyses discussed are based on data from these consistent students. Data from all target students were available on all measures, of course, but in considering a particular scale, we included only data from the consistent students for most analyses. Data from the other students were omitted, or their scores were included just for comparison purposes.

Students who did not meet the consistency criteria and thus were not classified as high, middle, or low on a given scale were classified into one of three other categories: upward movers, downward movers, or inconsistent.

Upward movers were those who showed a continually upward movement in their rankings across the five sets, or who started low and then moved up to a plateau and stayed there. Downward movers showed the opposite pattern, starting high but dropping consistently across each set of rankings or reaching a low plateau and staying there. The remaining students were inconsistent. They moved around in the rankings sufficiently to exclude them from the three consistent groups, but their movement was not consistently upward or downward.

Some had score patterns like "three, four, two, five, six." In this case, the first three rankings from the year one teacher indicated a low to middle view of the student on the scale in question, while the rankings from the second year teacher were higher. This type of inconsistency indicated a difference of opinion between the two teachers.

Another kind of inconsistency is typified by a student with a score pattern such as "five, two, one, five, four." This pattern is inconsistent in the first year, dropping to a very low ranking after being medium to high. The drop was not maintained in the second year, however, so that the student was not classified as a downward mover but simply as inconsistent. Something presumably happened in the first year to cause the drop, but we seldom were in a position to find out what, because we did not collect classroom observation data or detailed teacher interview data the first year. Thus, little will be said about these inconsistent students, except to note that they do occur with some regularity (see Table A-3).

To form similar groups based on the observer ratings originally made on forms like the one illustrated in Figure A-3, a distribution of raw scores totals (shown in Table A-3) was tabulated. The scores ranged from two

through six, because they were sums of scores ranging from one through three from each of two raters (or the doubling of one such score if only one rating was made). In order to assign students to high, middle, and low groups, and in order to obtain frequencies similar to those obtained from the teacher rankings, students with sum scores of "two" and "three" were assigned to the low group, students with scores of "four" and "five" were assigned to the middle group, and students with scores of "six" were assigned to the high group for each scale.

Note that the number of students rated high ("three") by both observers usually was much higher than the number of students rated low ("one"). This illustrates something that runs throughout all of our perceptual data: students who are salient because they are high on one or more noticeable attributes are remembered more easily than students who are low (and therefore usually non-salient) on the same attributes. The noticeable scale itself is a good example of this. Apparently, it is easy to notice and remember salient students, but difficult to remember those who are not salient, probably for this very reason.

Summary

The Student Attribute Study was a large scale, longitudinal attempt to extend knowledge of teacher expectations, teacher attitudes, and teacher-student interactions beyond the generalizations that could be gleaned from theory and research in social psychology generally. More specifically, we pursued some of the continuing questions and ambiguities of research on teacher expectations and attitudes, and tried to understand the dynamics

Involved when relationships run counter to typical trends.

The major method was the development of data known or strongly believed to be objective, representing factual information about student attributes. These data then could be used to anchor larger analyses which included subjective data and other data less trustworthy or clear in meaning. This allowed the accuracy of teacher and observer perceptions to be assessed and the implications of certain ambiguous classroom interaction data to be evaluated. One way this was approached was to collect low inference observational data on a relatively large number of classrooms, using a specially prepared instrument designed to record the frequency and type of individualized interactions that teachers had with target students.

The second major factor was the collection of longitudinal data on teacher perceptions of students on 13 attributes known to be associated with teacher expectations and attitudes. Three sets of teacher rankings were obtained in year one, and two more in the next year from different teachers. Criteria for consistency across these five sets of teacher rankings were developed so that students could be classified as consistent or inconsistent across time and teachers. Then, the consistent students were subdivided into mutually exclusive high, middle, and low groups for each of the 13 scales. For comparison purposes, similar high, middle, and low groups were formed using the classroom observer ratings of the students on these same 13 attributes. These classifications, along with student sex and grade, formed the major groupings for analysis of relationships of student attributes to other data.

Figure A-1. Instructions for filling out the scales in Year 1.

For each scale, think of your whole class and rank all of your students from highest to lowest on each of the scales. If you feel that two or more students are about the same on a particular scale and you could not rank one higher than the other, just circle these names on the scale. Do not worry about making fine discriminations between students, but work through the scales fairly rapidly. Your first impressions are the ones that we want.

PROBABLE HIGHEST
ACHIEVER

MATURE

COOPERATIVE, COMPLIANT

Cdgar, D.
Miller, M.
Christian, J.
Washington, W.
Trueman, H.
Ogden, J.
Cverts, C.
Temple, A.
Weaver, S.
Brodie, J.
Colter, C.
Sonzales, L.
Crawford, W.
Scaler, H.
Andros, L.
Lindsey, J.
Nissen, R.
Ballard, C.
Bonn, M.
Sherman, H.
Durant, J.
Heart, P.
Dempsey, L.
Harth, J.
Jackson, B.
Mitchell, A.
Rivers, D.

Miller, M.
Christian, J.
Neuman, H.
Cdgar, D.
Lindsey, J.
Washington, W.
Weaver, S.
Cverts, C.
Brodie, J.
Temple, A.
Nissen, R.
Colter, C.
Sonzales, L.
Andros, L.
Crawford, W.
Scaler, H.
Ogden, J.
Sherman, H.
Ballard, C.
Dempsey, L.
Heart, P.
Jackson, B.
Rivers, D.
Durant, J.
Bonn, M.
Harth, J.
Mitchell, A.

Brodie, J.
Neuman, H.
Miller, M.
Cdgar, D.
Cverts, C.
Colter, C.
Washington, W.
Christian, J.
Temple, A.
Weaver, S.
Crawford, W.
Scaler, H.
Lindsey, J.
Nissen, R.
Durant, J.
Rivers, D.
Dempsey, L.
Andros, L.
Sonzales, L.
Heart, P.
Jackson, B.
Ballard, C.
Ogden, J.
Bonn, M.
Harth, J.
Sherman, H.
Mitchell, A.

PROBABLE LOWEST
ACHIEVER

IMMATURE

UNCOOPERATIVE,
DEFIANT

Figure A-2. Instructions for filling out the 7-point scales in Year 2.

For each scale, select your three highest and three lowest students and put their names in the highest and lowest sections of the scale. Then select your next four highest and lowest students and put their names in the next highest and lowest sections of the scale. Do the same thing for the next highest and lowest section. You may leave some blanks in this section if you feel that you do not have enough students whose names belong here. Put all the remaining students names in the middle section. The students in each section of the scale will be considered to have the same ranking, so do not spend too much time making fine discriminations between students.

PROBABLE HIGHEST
ACHIEVER

MATURE

COOPERATIVE, COMPLIANT

Mrs. M. 3rd grade

Andros, L.
Ballard, C.
Bonn, M.
Brodie, J.
Dempsey, L.
Christian, J.
Colter, C.
Crawford, W.
Durant, J.
Edgar, D.
Everts, C.
Garth, T.
Gonzales, L.
Heart, P.
Jackson, B.
Lindsey, T.
Miller, M.
Mitchell, A.
Neuman, G.
Nissen, R.
Ogden, J.
Rivers, D.
Sherman, G.
Sealer, H.
Temple, A.
Washington, W.
Weaver, S.

Edgar, D.
Miller, M.
Christian, J.
Washington, W.
Neuman, G.
Ogden, J.
Everts, C.
Temple, A.
Weaver, S.
Brodie, J.

Colter, C.
Gonzales, L.
Crawford, W.
Sealer, H.
Andros, L.
Lindsey, T.
Nissen, R.

Ballard, C.
Bonn, M.
Sherman, G.

Durant, J.
Heart, P.
Dempsey, L.
Garth, T.
Jackson, B.
Mitchell, A.
Rivers, D.

Miller, M.
Christian, J.
Neuman, G.
Edgar, D.
Lindsey, T.
Washington, W.
Everts, C.
Brodie, J.

Temple, A.
Nissen, R.
Colter, C.
Gonzales, L.
Andros, L.
Crawford, W.
Sealer, H.

Ogden, J.
Sherman, G.
Ballard, C.
Dempsey, L.
Heart, P.
Jackson, B.
Rivers, D.
Durant, J.
Bonn, M.
Garth, T.
Mitchell, A.

Brodie, J.
Neuman, G.
Miller, M.
Edgar, D.
Everts, C.
Colter, C.
Washington, W.
Christian, J.
Temple, A.
Weaver, S.
Crawford, W.
Ballard, C.

Lindsey, T.
Nissen, R.
Durant, J.
Livers, D.
Demasey, L.
Andros, L.

Gonzales, L.
Heart, P.

Jackson, B.
Ballard, C.
Ogden, J.
Bonn, M.
Garth, T.
Sherman, G.
Mitchell, A.

PROBABLE LOWEST
ACHIEVER

IMMATURE

UNCOOPERATIVE,
DEFIANT

Figure A-2: SAMPLE RANKING SCALES FOR YEAR 2

HIGH INFERENCE SCALES

These are the high inference ratings to be used at the end of the coding sessions. You are to rank your target children on each continuum between the two points just as the teachers did. Circle (1) if he falls in the lower 1/3 of the class (i.e., on scale 1 he falls in the 1/3 of the class that is most restless and highly active. Circle (2) if he falls in the middle of the class on this scale and circle (3) if he falls in the upper 1/3 of the class on this scale (i.e., on scale 1 he falls in the 1/3 of the class that is most calm and shows good self control). Circle (5) if you simply cannot rate the child on this particular scale. Since you will not be rating the whole class but rather only the target children, there will not necessarily be an even distribution of children in the three categories of low, medium and high.

1 low

2 medium

3 high

1. Restless, highly Active vs. Calm, Good Self Control
2. Careless, Hasty Worker vs. Careful, Deliberate Worker
3. Unhappy vs. Happy
4. Probable Lowest Achiever vs. Probable Highest Achiever
5. Immature vs. Mature
6. Uncooperative, Defiant vs. Cooperative, Compliant
7. Not creative or Imaginative vs. Creative and Imaginative
8. Unattractive vs. Attractive
9. Gives up Easily, Needs to be Prodded vs. Tries Hard, Persistent Worker
10. Would like to have Removed from My Class vs. Would like to Keep for Another Year for the Sheer Joy of It
11. Doesn't Require Special Attention vs. Concerns Me a Great Deal; I would Like to be Able to Devote Much More Attention
12. Not Noticeable vs. Stands Out, Very Noticeable
13. Averts Eyes vs. Looks you in the Eye

Table A-1. Number of male and female students ranked consistently one one or more of the 13 scales for grades 2 - 4.

Number of consistent rankings	Grade 2		Grade 3		Grade 4		Grade 5		Total
	M	F	M	F	M	F	M	F	
13	0	0	0	0	1	1	0	0	2
12	0	3	1	3	2	3	0	3	15
11	4	3	3	1	6	7	3	4	31
10	1	4	4	2	10	18	4	6	49
9	6	8	7	11	11	16	4	2	65
8	5	4	5	4	17	7	3	2	47
7	10	5	8	3	10	6	3	3	48
6	3	3	10	10	8	7	3	1	45
5	2	5	1	5	2	3	2	3	23
4	1	1	3	1	2	2	2	2	14
3	1	1	4	1	5	2	1	0	15
2	1	0	0	1	2	1	0	3	8
1	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	34	37	46	42	76	73	25	29	362

Table A-2. Numbers of students that teachers ranked high, middle, and low for each of the 13 scales (Year 1 & 2 combined).

	<u>Low</u>	<u>Medium</u>	<u>High</u>
Calm	56	112	69
Careful	58	110	77
Happy	37	101	51
Achieving	72	124	88
Mature	62	123	72
Cooperative	48	119	65
Creative	38	101	54
Attractive	47	104	52
Persistent	54	112	78
Attachment	39	95	67
Concern	63	99	45
Noticeable	40	93	57
Eye Contact	29	90	35

Table A-3. Observer raw score totals for each scale (number of children at each position on each scale.)

	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Calm	50	52	84	93	83
Careful	34	52	85	92	97
Happy	19	35	91	120	96
Achieving	35	64	101	82	78
Mature	33	44	113	99	73
Cooperative	22	35	67	95	143
Creative	54	38	136	53	71
Attractive	25	48	108	93	88
Persistent	39	41	94	99	86
Attachment	27	60	113	98	63
Concern	93	101	91	44	33
Noticeable	43	70	110	81	58
Eye Contact	30	28	110	67	107

APPENDIX B
DATA COLLECTION AND ANALYSES

In the second year of the study, we collected a variety of self report and observational data to find out more about the students who were classified into the groups described in Appendix A. General analyses of these differences were performed to find out what attributes were related to consistent teacher rankings on the 13 scales. A variety of more specific analyses were performed to try to find out why certain students who were similar in some respects were ranked differently by the teachers.

All of these data were collected after target students were identified in February of the second year of the study. However, all data were collected from and by teachers and observers who could not have been biased in their self report or classroom observations because they did not know how the target students had been ranked and classified. Both the teachers and the classroom observers knew who the target students were, so that they probably were more aware of these students than of their classmates. Furthermore, this awareness might have made the teachers behave somewhat differently toward the target students when observers were present in their classrooms.

However, although both the teachers and the observers knew that the target students had been ranked consistently on one or more of the 13 scales, they did not know how many scales, or which scales. Thus, they could not systematically bias the data with respect to a particular scale even if they wanted to. For example, teachers could not systematically avoid favoritism towards attachment students or show concern toward concern students, because they did not know for sure who these students were. Similarly, the classroom observers could not be affected by knowledge of the teachers' perceptions of the students, since they did not know what these perceptions were.

An additional factor helping to minimize the possibility of systematic bias in the data was the relatively large number of scales (13). If one or only a few scales had been used, the teachers and observers might have been able to remain continually aware of these student characteristics, teachers especially might have remained aware of students whom they had ranked notably high or low. However, there were 13 different scales which included a variety of student characteristics, making it difficult for observers to be influenced by anything other than what they saw and even for teachers to be influenced by their own rankings. It is possible, and in fact probable, that individual teachers were aware of and perhaps influenced by their rankings of a few students on some scales, but it seems reasonable to assume that this was not a strong or widespread factor and that the scales involved varied from teacher to teacher even when such influences did occur.

In summary, both the teachers and the classroom observers knew the general nature of the study and the identity of the target students, but they did not know what scales the target students had been consistently perceived on or what the nature of these consistent perceptions were. Consequently, the classroom observer data are completely free of the influence of knowledge of teacher rankings. The teacher data could not have been influenced in any general or systematic way, and they were unlikely to be influenced strongly even in individual cases. Bearing this in mind, let us now consider the other data collected in the second year of the study.

Classroom Observation Data

Classroom observation data were collected with the Student Attribute Coding System (Brophy, et al, 1974). This observation system was designed especially for

this study. All dyadic interactions between the teacher and individual students were systematically recorded. In addition, certain "critical behaviors" of target students were coded, even if they were done independently or in interaction with peers rather than the teacher. The focus was on student classroom behavior and interactions likely to be related to teacher expectations and attitudes.

Public Response Opportunities

The coding system divided classroom interactions into three major divisions: public response opportunities, private dyadic interactions, and behavior related interactions. Public response opportunities were subdivided into small group (reading groups, mostly) and general class activities such as class discussions. These were situations in which a student was asked to answer a question, read from a book, or make some other public response in interactions intended to be instructive not only to the student involved but to all other students in the small group or general class.

Several coding distinctions were made to describe public response opportunities further. First, public response opportunities were subdivided according to who initiated them and how. Non-volunteer was coded if the teacher called on a student who did not have his or her hand up. Response opportunities that occurred when teachers called on students who did have their hands up were coded either as volunteer or wave, depending upon whether the students merely raised their hands and waited to be recognized or, instead, waved their hands, called out "Teacher, teacher," or otherwise made strenuous efforts to be recognized. Finally, a response opportunity was coded call out if a student called out the answer without prior permission or recognition from the teacher. This coding provided an indication of the degree to which the students actively and voluntarily participated in

public interactions, and also of the degree to which they did so in sanctioned vs. unsanctioned ways.

The small group vs. whole class context coding and the coding of the method of obtaining a response opportunity were recorded for every response opportunity. In addition, teacher praise or criticism were coded when and if they occurred. This coding refers to academic praise or criticism, in which the teacher praises or criticizes the quality of a child's answer or recitation. Praise or criticism for desirable or undesirable classroom behavior (as distinct from academic performance) was coded separately.

Teacher reactions to student answers had to be sufficiently evaluative and intense to go beyond simple provision of feedback to be coded as praise or criticism. If the teacher merely indicated that the response was correct or incorrect, without making an evaluative statement or responding with clear emotional involvement, praise or criticism were not coded. Coding of such reactions was reserved for situations where teachers clearly went beyond simple affirmative feedback in order to praise student performance, or clearly went beyond simple negative feedback in order to criticize student performance.

Private Dyadic Interactions

Private dyadic interactions included all interactions which occurred between teachers and individual target students except those which concerned classroom conduct. These interactions are called "private" because they concerned only the individual student involved, although the interaction may have been heard by some or even all other students. Private dyadic interactions were subdivided according to whether they were initiated by the students themselves (student initiated con-

tacts) or by the teacher (teacher initiated contacts). A private interaction was considered to be initiated by a student if the student approached the teacher directly or indicated a desire to talk to the teacher through handraising or some other method of getting the teacher's attention. Private contacts were considered to be teacher initiated if the teacher approached the student without any prior attempt by the student to indicate a desire to interact.

Student initiated contacts were subdivided into those involving work, approval seeking, housekeeping, personal matters, tattling, and socializing. Student Initiated work contacts were coded when students initiated an interaction with the teacher to discuss or get help with a work assignment. Whenever such interactions occurred, the teacher's response was coded as refuse, brief, or long. Refuse was coded if the teacher ignored the student or said that she was too busy to be interrupted at the moment. Brief was coded if the teacher listened to the student and then gave a substantive but brief answer (a sentence or two at most). Long was coded if the teacher's response was more extended, because she took time to go over the instructions with the student in some detail, explained a concept at some length, or otherwise spent some time with the student trying to clarify a point of confusion.

In addition to coding the length of teacher responses when students initiated work contacts, our observers coded three additional teacher reactions if and when they occurred. Two of these were praise and criticism. They were defined similarly to praise and criticism for good or bad responses in public response situations, except that praise and criticism in private work contexts involved teacher evaluative reactions to the student's work on assignments. Again, teacher's praise or criticism of conduct was not included here but was coded else-

where.

Teachers also could be coded for impatience if they quite obviously attempted to brush off the student, showed irritation or frustration at the need to continue trying to explain the assignment, or otherwise give evidence of impatience or irritation. This coding was independent of the coding for length: teachers could refuse to interact with a student at a particular time but do so in a polite and friendly way, and they also could interact with a student for a long time but show irritation and impatience throughout much of the interaction.

As with all optional coding in this observational system, observers coded praise, criticism, and impatience only when they were sure that the optional behavior should be coded. If they were uncertain, they did not code these behaviors as present during the interaction. This is one of several coding conventions designed to standardize coding and to make it as conservative as possible. The idea was to insure that the coding of reactions like praise, criticism, or impatience was such that only clear cut instances were coded. Borderline instances which left coders unsure about what to do were ignored.

Student initiated approval seeking was coded when the student came to the teacher to show off completed work and apparently to get approval or permission to move on to something else, as opposed to coming for help or clarification. As with student initiated work contacts, approval seeking contacts were coded for refusal, praise, or criticism, if the teacher responded in any of these ways. They also were coded for feedback if the teacher simply gave routine feedback concerning the work without praising it or criticizing it. Either refusal or feedback was coded for each approval seeking contact, but the coding of teacher praise or criticism was optional, dependent on teacher behavior.

Student initiated housekeeping interactions were coded when the student approached the teacher to offer to or ask permission to perform favors or run errands. Usually these involved tasks such as passing out books or supplies, cleaning the erasers or the blackboard, or carrying messages. In general, anything that had to be done as part of the daily business of running the classroom was considered a housekeeping task. Things done for personal reasons rather than for the good of the class as a whole were classified as personal interactions. Teachers' responses to students' housekeeping requests were coded as refuse, approve, thanks, or reward.

Refuse or approve was coded for each interaction, depending upon the teacher's response to the student's request. Thanks and reward were coded optionally if they occurred. Thanks was coded if the teacher thanked the student for performing the task. Reward was coded if the teacher went beyond merely approving the request but responded in such a way as to infer that the student was being allowed to perform the task as a reward for good work or good behavior. Thus, reward was coded if the teacher played up the task as a desirable or prized activity and stated that the student was going to be allowed to do it not so much because he or she asked but because he or she was especially deserving.

This coding was an attempt to assess the degree to which teachers looked upon housekeeping assignments as reward vs. routine duties to be performed vs. punishments or methods to keep trouble makers busy. These distinctions came up in previous work by ourselves and others. They suggested that the assignment of housekeeping duties has very different meanings for different teachers.

Student initiated personal requests were coded when students approached the teacher for permission to do something of importance only to themselves rather than to the class as a whole (go to the bathroom, get a drink, sharpen their pencils, use special equipment, etc.). In these contacts, the students communi-

cated some problem or personal concern and asked the teacher for permission to do something about it. Teacher responses in these interactions were coded as refuse, approve, positive emotional reactions, negative emotional reactions, or reward.

Refuse or approve were coded each time, depending upon the teacher's response to the request. The remaining codes were optional. Positive emotional reactions were coded if the teacher responded in a clearly warm or friendly manner, and negative emotional reactions were coded if the teacher responded with attitudes of disgust, rejection, anger, frustration, or hostility. These emotional reactions were coded independently of whether or not the teacher approved the student's request, and they were coded only if the teacher showed these emotional reactions clearly. No emotional response was coded if the teacher simply listened to the student's request and then gave feedback in a perfunctory manner. As with student initiated housekeeping requests, reward was coded in student initiated personal requests if the teacher not only approved the request but did so in such a way as to suggest that she was approving it as a form of reward for good work or behavior.

Tattling was coded whenever a student came to the teacher to tattle on another student. It was coded whenever it was observed, regardless of the seriousness of the problem or the justification for the tattling. Teacher reactions were coded as approval or rejection. Approval was coded if the teacher reacted positively by thanking the student or taking action in response to the tattling, or if she accepted it without any negative response. Rejection was coded only if the teacher made a definite negative response, chiding the student for tattling or stating that she was not interested in hearing what the student had to say.

* Student initiated social contacts are contacts initiated by the students for purposes other than getting help with work, getting approval for completed work,

seeking permission for a housekeeping or personal request, or tattling. Most of these contacts involved attempts by the student to initiate conversation with the teacher or to show the teacher some possession. In general, any student initiated contact which did not fit into any of the five previous categories was coded in the social category. Teacher responses to these student initiated social interactions were coded as refused, brief, or long, as described previously. In this case, a long teacher reaction did not involve explaining directions or concepts to the student. Instead, it involved the teacher taking time to show interest in whatever the student wanted to talk about. This usually was done through a combination of willing and active listening with asking questions and otherwise responding positively in ways that would prolong the interaction.

In addition to the six specific types of student initiated contacts described above, the "?" column was included in the student initiated contacts section of the coding sheet. This allowed observers to indicate that a student had initiated a contact with the teacher but that the nature of the contact was unknown because it could not be overheard and because not enough information could be gleaned from observing it to allow a confident coding in one of the six other categories. Codes included here were added into each target student's total of student initiated private contacts with the teachers, in order to provide a full accounting of such contacts, even including those which could not be classified further.

Teacher Initiated Contacts

Teacher initiated contacts are private in the same sense that student initiated ones are, but they are initiated by the teacher. The subtypes and general method of coding are similar, except that adjustments are made for the fact that

the contacts are initiated by the teacher and the responses are made by the students, instead of vice versa. These contacts are subdivided into those involving work, housekeeping, personal matters, and socializing.

Teacher initiated work contacts were coded when teachers called students to their desks to check their work or discuss it with them, or when the teachers circulated around the room during seatwork times to check the work of individual students. These contacts were coded as observe, brief, or long. Observe was coded if the teacher merely stopped and observed the student at work but did not say anything to the student. Brief was coded if the teacher stopped to give instructions or feedback of a sentence or two, and long was coded when the teacher spent some time with the student explaining or reviewing.

In addition to these codes for length of contact, teacher praise and criticism of student work was coded if it occurred. Also, student positive and negative emotional reactions were coded, if they occurred. Positive emotional reactions were coded if the student responded to the teacher in an obviously positive way that suggested happiness, pride, or general enjoyment of the interaction. Negative emotional reactions were coded if the student responded in a way that conveyed anger, fear, disgust, embarrassment, or other unpleasant emotional reactions. As with student initiated work contacts, praise, criticism, and emotional reactions in teacher initiated work contacts were coded only when the observer was positive that the behavior had occurred. Nothing was recorded if the observer was not sure.

Teacher initiated housekeeping interactions were coded when the teachers asked students to perform a housekeeping task or errand. In addition, teacher responses to students following completion of the task or errand were coded as

routine, thanks, or reward. Routine was coded if the teacher made no reaction or gave a minimal response that did not constitute thanks or reward. Thanks was coded if the teacher clearly thanked the student for doing the task. Reward was coded if the teacher intimated that the student had been selected to do the task because of good work or behavior.

Teacher initiated personal contacts were coded when the teacher initiated interactions with students to ask or tell them to do something that applied only to the student involved, rather than something more general such as a housekeeping task. These included such things as requests that students clean their desks, put on or take off clothing, hang up coats, or otherwise tend to their personal affairs. Student emotional reactions to these teacher initiations were coded as routine, positive, or negative, depending upon whether and how the student responded emotionally.

Teacher initiated social contacts were coded when the teacher initiated a purely social contact with an individual student (for example, to talk about current events in the world at large or around the school, to inquire about the student's family, birthday, or personal interests, to comment about extracurricular activities, and so on). Again, student emotional reactions in these contacts were coded as routine, positive, or negative.

BEHAVIOR RELATED CONTACTS

The third major category of classroom events coded with this observation system included noteworthy desirable or undesirable student behavior and teacher reactions to such behavior. Where the student behavior led to a response from the teacher, observers coded both the nature of the behavior and the nature

of the teacher's response. Some student behaviors were classified in advance as "critical" and were to be coded whenever they occurred (see Figure B-1). The last category (Other) was used for any noteworthy behavior that was observed by the coder but did not fit into any of the categories listed previously. This included a diversity of behaviors. Most were praiseworthy positive behaviors, but a few were unique undesirable behaviors that led to negative teacher reactions.

Categories for coding teacher reactions to behaviors such as those shown in Figure B-1 included praise, non-verbal intervention, warning, threatening, and criticism. Praise was coded when teachers singled out students to praise their desirable behavior or classroom conduct (as opposed to good answers or good work on assignments). This was the only teacher reaction to desirable behavior coded. Even so, it was not coded very often. Most "good" student behaviors singled out for praise were routine or at least expected. Unlike academic praise of good answers or good seatwork, where particularly creative, careful, or otherwise impressive accomplishments occur often enough to provide teachers with periodic opportunities to praise genuinely unusual and outstanding accomplishment, "good" conduct usually involves nothing more than keeping classroom rules.

Opportunities to praise students for going above and beyond the call of duty are rare. Therefore, most teacher praise for good behavior is praise for doing what the student is supposed to be doing anyhow. Often it is given at least in part as a message to other students that they should act accordingly.

An exception to this occurs with teachers who are familiar with principles of behavior modification to the point that they have learned to watch for opportunities to praise and encourage desirable behavior. This can be effective if the praise is desired and genuine and if it is individualized, although it can backfire if it is perceived (correctly or not) as favoritism towards "teacher's pets."

Teacher responses to undesirable student behavior were coded into one of five mutually exclusive categories representing varying degrees of intrusiveness and negative affect. Non-verbal intervention was coded if the teacher merely moved near to a student who was talking instead of working or otherwise was disobeying classroom rules in some obvious way that did not require comment. If simply moving towards the student and staring was sufficient to motivate the student to switch to approved behavior, and if the teacher confined herself to this minimal response, non-verbal intervention was coded.

Management was coded if the teacher verbally indicated that the student should change behavior, but did so in a casual or matter-of-fact tone that did not imply any anger or even a warning. Management responses simply informed students that their present behavior was unacceptable and/or instructed them to do something else.

Warning was coded when teachers told students to change their behavior in tones communicating a degree of irritation or annoyance not present in simple management messages. Warnings often implied or expressed that punishment would occur if the behavior did not change. However, they did not contain specific threats, like the statements coded in the following category.

Threat was coded if the teacher went beyond a vague warning and made a specific threat telling the offending student what would happen if he or she did not comply with the teacher's demands. Threats included loss of privileges, loss of test credit (usually when a student was seen cheating), or statements that persistence with the disapproved behavior would lead to some other form of punishment.

Finally, criticism was coded for the most extreme teacher responses: severe, tongue-lashing criticism and/or administration of some kind of punishment. All actual punishments were coded here, even if they were not accompanied by specific verbal criticism. This was because neither extreme criticism nor punishment

were infrequent, and neither would have been open to meaningful statistical analyses if coded separately. Furthermore, they seemed to be essentially equivalent. The difference was more in teacher style or preference rather than in the degree of negative affect involved in the teacher's response to misbehavior. Both kinds of responses represent a loss of patience with the student, which results in the most serious kind of negative consequences that are likely to arise in a particular teacher's classroom. With some teachers, this is the expression of anger and criticism. Other teachers administer punishment without becoming particularly emotional or upset. Some teachers do both.

Looking back over the categories for teacher responses to misbehavior, note that management responses involved direct intervention but no direct or even indirect negative affect. Non-verbal interventions usually were even less obvious as reactions to misbehavior, although at times they did involve apparent negative affect even though nothing was said (the teacher glared menacingly at the offending student). The last three categories all involved negative affect.

The degree of negative affect varied considerably for both warnings and threats. The difference between these coding categories was whether or not the teacher was specific in threatening negative consequences, not the degree of negative affect. Teacher behavior coded under criticism usually involve the most extreme negative affect, although occasionally teachers would administer punishment without showing much anger or even impatience.

Student reactions to teacher disciplinary responses were coded as cowed or sullen. Both of these codings were optional, so that they were coded only when the observer was certain that the student had showed the behavior involved. Students were coded as cowed if they appeared to be sheepish, anxious, ashamed,

embarrassed, afraid, or otherwise generally sorry for having misbehaved or upset at being out of the teacher's good graces. Students were coded as sullen if they appeared defiant, sullen, angry, resentful, or otherwise contemptuous of the teacher and apparently unafraid and unbothered by her anger.

Students also were coded as sullen if they responded to teacher scolding by making faces or obscene gestures after the teacher turned her back, or by grinning at friends or gloating. Thus, the sullen category included two quite different types of student reactions to disciplinary interventions by the teachers, although both types suggest alienation from and general negativism toward the teacher. In contrast, the behaviors coded under cowed suggest that the student cares about the teacher's opinion and is sorry for having made the teacher angry.

Critical Behaviors

Note that several of the student behaviors shown in Figure B-1 are circled. These behaviors were considered sufficiently serious and interesting that observers were instructed to code them whenever they occurred, even if the teacher did not notice them. This coding convention helped insure that behaviors particularly relevant to peer relationships and to accurate measurement of severe misbehavior would be recorded, even if the teacher failed to notice such behavior or to respond to it.

In addition to critical student behavior, critical teacher behavior was coded when teachers did things thought to be particularly relevant to their expectations and attitudes toward individual students. Four of these were positive behaviors indicating that the teacher liked the student or at least was trying to behave positively toward the student. These included asking the student to take names when the teacher left the classroom, flattery, physical affection, and making a

good example of the student by publicly praising his or her behavior and suggesting that other students imitate it.

In addition, teachers were coded for critical behavior if they publicly held up a student as a bad example to the other students. In this case, the teacher went beyond the previously described disciplinary reactions addressed to individual students by addressing a statement to the class as a whole criticizing the student's behavior and warning them against imitating it.

In addition to these anticipated critical teacher behaviors, anything else that seemed critical or noteworthy to the observer was coded in an "other" category and was explained somewhere on the coding sheet.

Preparation of Classroom Observation Data for Analyses

The coding system was used by 17 classroom observers who familiarized themselves with it and practiced using it until they were able to reach a criterion of 80% or better agreement with one or more partners in each of the major categories of the system. Practice coding was done in classrooms that were observed later, and it focused on target students who would be included in the study. Thus, the practice phase involved coding under realistic conditions. It accomplished the task of familiarizing the teachers and students to the presence of classroom observers at the same time the observers were familiarizing themselves with the system.

Observers could begin to accumulate data that would be used in later analyses as soon as they reached reliability criteria, although sometimes they continued to practice a little longer in certain classes because they had not yet memorized the code numbers of the target students. Each target student had a unique number, and all interactions involving this student were coded with this identification number so that they could be tabulated later. Raw codes were punched and tallied for each target student and each classroom, using a computerized tallying program

developed specifically for this purpose (Crawford and Washington, 1974).

Each observer coded a given classroom five times. Observation periods included either an entire morning or an entire afternoon. Two separate observers were assigned to each classroom. This was to minimize observer bias effects and to make possible the assessment of agreement between the two observers on the self report measures administered at the end of the study. This arrangement meant that each classroom was observed for a total of 10 half days, or about 20 hours.

A total of 164 variables were derived from the raw coding through tabulation of frequency of measures (such as "number of small group response opportunities") or computation of proportion measures (such as "percentage of teacher responses to-misbehavior which were non-verbal interventions"). For analyses of differences by grade and sex of student, these raw scores were used.

Scores had to be standardized, however, for all analyses involving data on individual students. This was because different classrooms, grades, and even schools had different "norms" for many of the behaviors we measured. For example, small group instruction occurs for much of the day in the early grades, because it is relied upon for teaching beginning reading. However, it begins to disappear around fourth grade, and is seldom seen thereafter.

The ideal way to adjust individual scores to take such group differences into account is to standardize scores separately for each classroom, so that each students' score on a variable reflects his or her status with respect to immediate classmates, not all other students in the study. However, standardization by individual classrooms was not feasible in this study, because the number of target students sometimes was too low. Therefore, we did the next best thing,

standardizing scores within schools and grade levels. Thus, each student's score on each variable represents his or her status relative to other students in the same grade at his or her school.

This means that school averages and grade averages in the standardized scores are equal, and that many group effects on individual scores have been eliminated. The standardized scores still were affected by individual teacher differences which were not controlled through the standardization process, however. This is not a very serious problem, because so many teachers were involved in the study, and because students in the 13 groups were scattered across classrooms.

Consequently, there is little danger that findings based on analyses of data from individual students were unduly influenced by one or a small number of teachers. The primary effect of any systematic teacher individual differences operating when we collected the data would be to increase the error or randomness variance, and thus reduce the number and strength of significant relationships. This probably happened, but not to any significant degree.

Behavior Checklists

After completing the five scheduled observations in a given classroom, each observer filled out the behavior checklist shown in Figure B-2 for each of the target students in that classroom. This was a high inference measure designed to supplement the low inference coding system just described. Observers used information they had picked up in the process of observing the students when filling out the checklist but they checked the presence or absence of general traits or behavior tendencies. In effect, they inferred these generalities from more specific observations. This is why checklists and similar instruments of this kind are called "high inference" instruments. In contrast, the low inference coding

system described above involved either no inferences at all or very minimal inferences in translating observable events into coding records.

The behavior checklist was weighted heavily toward negative student qualities likely to produce negative teacher reactions, although it did include several positive qualities expected to correlate with positive teacher reactions. Observers filled out the checklists independently (without knowledge of each other's scores). Final scores for each student were tabulated by adding the scores from the two observers. Students received a score of "0" on a given checklist variable if neither observer had checked it; they received a score of "1" on the variable if one observer checked it and the other did not; and they received a score of "2" if both observers checked it.

The original checklist, shown in Figure B-2, contained 40 items. These were reduced to 35 items combined into six behavior checklist scores on the basis of statistical analyses. Two items (tall-short; large-small) were dropped because they combined alone to form a physical height factor, and this in turn failed to correlate systematically with other variables. Three other items in the original checklist did not cluster with other items to form factors. Analyses revealed that the major reason was low variance: very few students were checked for these items. Because of this, these items could not correlate consistently with other scores. Consequently, they were dropped from further analyses.

The 35 items which did cluster into interpretable factors which correlated with other data are shown in Figure B-3. Items on the same factor correlated highly with one another and had similar patterns of relationships with scores from other data sets, so we used combination scores as a way to increase variance and reliability and decrease needless repetition. The combination scores were

were formed by summing the scores for each of the items that made up the six new scores, reversing item scoring direction when necessary.

Observer Adjective Descriptions

The behavior checklist was a forced choice instrument requiring the observers to respond to a preselected set of categories. The same was true of the observers' ratings of the students on the 13 scales measuring student attributes. In order to complement these forced choice self report data, we asked each observer (again, independently of the other observer who had coded the same target students) to provide three adjectives or brief descriptive phrases which described the three most salient characteristics of each student. The only limitation was that purely physical characteristics such as sex, race, or height should not be mentioned.

Because these were free responses, no direct assessment of reliability or agreement could be made, even though two observers were reporting on each student. However, a check for apparent discrepancies or contradictions revealed that these were rare, occurring in considerably less than one percent of the responses. When this did happen (for example, when one observer described a student sociable and another described the same student as quiet or shy), the discrepant adjectives were omitted from the data. All other adjectives were then analyzed and grouped into categories which included descriptions which were synonymous or very similar to one another. This method allowed the coders to make open ended responses describing the students in their own words, but still allowed statistical analyses of groups of students large enough to make such analyses meaningful.

Some of the adjective description groupings involved simple presence or absence. Others involved bipolar dimensions on which students were scored as

low, high, or no data. Two measures included three categories, so that students were scored as low, middle, high, or no data.

After an initial category system was developed adjectives were scored separately by two independent raters, with differences resolved by discussion where possible. If adjectives could not be agreed upon as belonging in one of the categories, they were placed into a residual category. Those statements which were clearly positive were placed in a "residual positive" category; those which were clearly negative were placed in a "residual negative" category; and those which were not codable into any of the other categories and also were not either positive or negative were placed into an "unscorable" category. (Readers interested in a detailed account of this scoring, including a complete list of all adjectives given and of how they were classified, should consult Anderson, Brophy, Evertson, Baum, and Crawford, (1975).)

Teachers' Adjective Descriptions

Adjectives were solicited from the teachers during interviews conducted after classroom observations had been completed. Like the observers, the teachers were requested to supply three adjectives or brief phrases which described the most salient or characteristic attributes of each target student. As with the observers' adjective descriptions, the teachers' adjective descriptions then were placed into larger categories, with differences between categorizers resolved by discussion. Again, adjectives that did not fit any of the categories were scored as residual positive or negative where possible, and the remainder were coded as "unscorable." (Details about the classification of teachers' descriptions also are given in Anderson, Brophy, Evertson, Baum, and Crawford, (1975).)

Our main purpose in collecting these free response data from the observers and teachers was to discover student attributes which we had not included among the 13 scales or the 40 behavior checklist items. These forced choice instruments had the advantage of simple scoring and standardized response methods, but you can get from them only what you put in. If you have not included one or more important attribute, you will get no information about it from a forced choice instrument.

On the other hand, free response methods allow such information to come out spontaneously as teachers and observers describe students in their own words. This allows them to report on student attributes which they have noticed but which were not anticipated previously, so that valuable new insights may occur. The disadvantage of free response data, of course, is that the gains in spontaneity and richness of description are achieved at the expense of standardization and ease of scoring. In fact, in order to use the data for statistical analyses, it is necessary to develop coding systems which will allow synonymous or similar descriptions to be categorized together.

This can be done reliably, but it is a time consuming process, even when relatively few adjectives are involved. The present study included self reports from three different individuals about each of 362 students, so it was necessary to limit the number of responses made about each student. This was done to keep that number standard and thus make the students more directly comparable, and also to hold down the number of descriptions which had to be classified. With these considerations in mind, we arbitrarily set a limit of three descriptors, asking each respondent to provide no more and no fewer. This worked in general, although a few respondents gave more than three adjectives or gave two which were synonymous.

Other Information

In addition to these standardized self report data, we attempted to collect any other information which might be pertinent. Consequently, after eliciting adjectives from the teachers, we asked them to tell us if there were anything else that we should know (such as illnesses or family problems which might have made students behave uncharacteristically during the time we were observing). In response to these questions, the teachers frequently mentioned unusual events (usually unfortunate ones) which had occurred during the spring semester, although in most cases they added that they had seen little or no effects on the student's behavior at school.

In a few cases, particularly those involving the death of a parent, there were reports of children becoming depressed or showing other negative effects.

Also, during each of their classroom visits, coders noted down anything that seemed worth recording which was not already included on the coding sheet. Much of this information concerned the teachers rather than the students, although some of it was useful for interpreting the data for individual students. Also, much of it proved to be useful in developing illustrative case studies.

Summary

A variety of data was collected about the target students. In March through May of the second year of the study, each classroom was observed ten times, five times each by each of two observers, using a low inference coding system designed especially for the study. The system allowed for the recording of all dyadic interactions between the teacher and individual target students, as well as for certain critical behaviors on the part of target students or the teacher. Teachers and observers knew who the target students were, but they did not know

the particular patterns of consistency in teacher rankings or their status on the 13 scales.

The low inference classroom coding yielded 164 variables. These were used in raw score form for certain analyses, but most analyses used transformed scores in which individual students' scores were standardized within school and grade (but not classroom). This substantially reduced but did not entirely eliminate the effects of general differences among teachers on the individual scores of students.

After classroom observations were completed, self report data were collected from both the teachers and the classroom observers. The teachers and observers were asked to provide three adjectives or brief phrases describing each target student's most salient characteristics. These adjectives later were categorized and grouped for statistical analyses. The teachers also provided information on any unusual circumstances in a student's life which might have made a difference in the student's behavior in the classroom during the time we were observing, and the observers noted anything special or unusual.

Figure B-2. Behavior Problem Checklist

1. School # _____ 2. Target # _____ 3. Target Name _____ 4. Coder _____
5. Target Race _____ 6. Teacher Race _____

For each item, circle (1) to indicate that the item describes the child NOT AT ALL; circle (2) to indicate that the item describes the child SOMEWHAT; circle (3) to indicate that the item is TYPICAL of the child. If you cannot rate, circle (5).

- | | | | | | |
|---|------|---|---|---|---|
| (1) Attention-seeking, "show-off" behavior | (1) | 1 | 2 | 3 | 5 |
| (2) Has fun with peers | (2) | 1 | 2 | 3 | 5 |
| (3) Self-consciousness, easily embarrassed | (3) | 1 | 2 | 3 | 5 |
| (4) Fixed expression, lack of emotional reactivity | (4) | 1 | 2 | 3 | 5 |
| (5) Disruptiveness, tendency to annoy & bother others | (5) | 1 | 2 | 3 | 5 |
| (6) Boisterousness, rowdiness | (6) | 1 | 2 | 3 | 5 |
| (7) Preoccupation; "In a world of his own," daydreaming | (7) | 1 | 2 | 3 | 5 |
| (8) Shyness, bashfulness with peers | (8) | 1 | 2 | 3 | 5 |
| (9) Preference for solitary activities | (9) | 1 | 2 | 3 | 5 |
| (10) Dislike for school | (10) | 1 | 2 | 3 | 5 |
| (11) Popular with peers | (11) | 1 | 2 | 3 | 5 |
| (12) Short attention span | (12) | 1 | 2 | 3 | 5 |
| (13) Lack of self-confidence | (13) | 1 | 2 | 3 | 5 |
| (14) Inattentiveness to what peers say | (14) | 1 | 2 | 3 | 5 |
| (15) Easily confused | (15) | 1 | 2 | 3 | 5 |
| (16) Hypersensitivity, feelings easily hurt | (16) | 1 | 2 | 3 | 5 |
| (17) Laziness in school and in performance of other tasks | (17) | 1 | 2 | 3 | 5 |
| (18) Anxiety, chronic general fearfulness | (18) | 1 | 2 | 3 | 5 |
| (19) Irresponsibility, undependability | (19) | 1 | 2 | 3 | 5 |
| (20) Depression, chronic sadness | (20) | 1 | 2 | 3 | 5 |
| (21) Uncooperativeness in peer situations | (21) | 1 | 2 | 3 | 5 |
| (22) Aloofness, social reserve | (22) | 1 | 2 | 3 | 5 |
| (23) Suggestible, easily led by others | (23) | 1 | 2 | 3 | 5 |
| (24) Clumsiness, awkwardness, poor muscular coordination | (24) | 1 | 2 | 3 | 5 |
| (25) Destructiveness in regard to his own/or other property | (25) | 1 | 2 | 3 | 5 |
| (26) Negativism, tendency to do the opposite of requested | (26) | 1 | 2 | 3 | 5 |
| (27) Impertinence, sassiness | (27) | 1 | 2 | 3 | 5 |
| (28) Sluggishness, lethargy | (28) | 1 | 2 | 3 | 5 |
| (29) Profane language, swearing, cursing | (29) | 1 | 2 | 3 | 5 |
| (30) Irritability, hot tempered, easily aroused to anger | (30) | 1 | 2 | 3 | 5 |
| (31) Often has physical complaints, e.g., headaches, stomach ache | (31) | 1 | 2 | 3 | 5 |
| (32) Constructive use of time | (32) | 1 | 2 | 3 | 5 |
| (33) Dependency on teacher | (33) | 1 | 2 | 3 | 5 |
| (34) Willingly helps peers with work | (34) | 1 | 2 | 3 | 5 |
| (35) Peer leadership academically | (35) | 1 | 2 | 3 | 5 |
| (36) Teacher favoritism | (36) | 1 | 2 | 3 | 5 |
| (37) Picked on by teacher | (37) | 1 | 2 | 3 | 5 |
| (38) Social leadership among peers | (38) | 1 | 2 | 3 | 5 |
| (39) Restlessness, inability to sit still | (39) | 1 | 2 | 3 | 5 |
| (40) Aggressive play with peers | (40) | 1 | 2 | 3 | 5 |
| (41) Circle physical characteristics of target if pertinent. (What you note here, don't mention in thumbnail sketches.) | | | | | |

Tall - Short
Robust - Frail

Fat - Skinny
Physical Mature - Physically Immature

Fig. B-3. Behavior Checklist Factors

1. <u>Boisterous, disruptive</u>	Reliability	2.
1. Irresponsible, undependable	.35	***
2. Negative, tends to do opposite of requests	.38	***
3. Disruptive, tendency to annoy and bother others	.47	***
4. Lazy in school and performance of tasks	.29	***
5. Boisterous, rowdy	.41	***
6. Destructive to own or others property	.27	***
7. Aggressive play with peers	.43	***
8. Dislike for school	.35	***
9. Short attention span	.36	***
10. Restless, unable to sit still	.42	***
11. Does not make constructive use of time	.37	***
12. Impertinent, sassy	.33	***
13. Picked on by teacher	.27	***
14. Attention-seeking, stow-off behavior	.46	***
2. <u>Passive, Unemotional</u>		
1. Prefers solitary activities	.25	***
2. Fixed expression, lack of emotional reactivity	.24	***
3. Preoccupied, in a world of his own; daydreams	.13	*
4. Shy and bashful with peers	.34	***
5. Aloof, socially reserved	.11	*
6. Depression, chronic sadness	.28	***
7. Does not have fun with peers	.29	***
8. Self-conscious, easily embarrassed	.33	***

3. Good peer relations

1. Peer leader academically	.34	***
2. Social leadership among peers	.34	***
3. Popular with peers	.39	***
4. Teacher favorites	.22	***

4. Poor peer relations

1. Inattentiveness to what peers say	.17	**
2. Uncooperativeness in peer situations	.15	**
3. Irritability, hot tempered, easily angered	.26	***

5. Low self-esteem

1. Hypersensitivity, feelings easily hurt	.14	*
2. Easily confused	.23	***
3. Lack of self-confidence	.36	***
4. Suggestible, easily led by others	.16	*

6. Clumsy, lethargic

1. Clumsy, awkward, poor coordination	.27	***
2. Sluggish, lethargic	.25	***

APPENDIX C
AGREEMENT BETWEEN TEACHERS
AND CLASSROOM OBSERVERS

Teachers and classroom observers each provided information about the students in the study. They rated them on the same 13 attribute scales, and they provided three adjectives or brief descriptive phrases in the free response interviews. Comparisons between these data sets provide information about the degree of accuracy and general credibility of these self reports of perceptions of students. Furthermore, combinations of logical analyses with comparisons of data sets provide information about the reasons for inaccuracies which may appear.

Contrasting Conceptual Sets

Perception is not automatic. We can see very different things in precisely the same situation depending upon our perceptual set. This term refers to a predisposition to notice, or even an active looking for, certain things rather than others. When we enter a situation with a clear perceptual set, we are "set" to perceive information relevant to our present concerns. This makes us especially likely to notice these things and not to notice other things.

For example, suppose you are passing the display window of a department store, walking towards the corner of the street where the entrance to the store is. If you have made an appointment to meet a friend at the corner, you will pay no attention to the display in the store window. Instead, you will look ahead towards the corner and concentrate on the people in an effort to pick out your friend. You probably will not notice anything about the store display unless the friend is late, and you have to kill some time.

Contrast this with what you might do if you were window shopping. With this perceptual set in the same situation, you would concentrate on the displays in the store windows and paying little attention to people passing by on the street. In fact, if the goods displayed were sufficiently interesting, you easily might fail to notice a friend in the crowd, unless the friend spotted you and came over to talk.

Perceptual sets structure what is seen in the classroom, too. This is important to keep in mind, because most of our findings in areas where teachers and observers did not agree strongly were differences in emphasis rather than contradictions or outright disagreements. In turn, these differences in emphasis seem readily explainable if you take into account the differences in perceptual set which were operating.

The Teachers

Like other institutions, schools have particular functions and well established roles for those who populate them and fulfill their functions. Of these, we are concerned mostly with the teacher role and the student role. Regardless of what they are like personally and how they conduct themselves outside the school, teachers have in common certain attributes connected with the teacher role, and students have in common certain attributes connected with the student role, during the time that they spend together at school.

The teacher role includes organizing and running the classroom as an administrative unit, teaching the curriculum, and enforcing codes of conduct. These aspects of the teacher role tend to focus teacher perceptions of students on student attributes most relevant to the role.

These attributes cluster together to form a student role which complements the teacher role. Students are expected to learn and follow codes of conduct at school and to master the curriculum, under the direction of the teacher. As a result of all of this, teachers do not perceive students simply as unique individuals perceiving other unique individuals. Because of a perceptual set focusing on these roles, teachers usually perceive students from the perspective of teachers and perceive the students in their roles as students. Student attributes most relevant to the everyday functioning of the classroom as a whole and to the academic progress of individual students are given primary attention, with correspondingly less attention to less relevant attributes. As a result, most teachers are much more aware of student attributes like classroom conduct, work habits, and achievement than they are of attributes like peer popularity or athletic skills.

The Observers

The classroom observers had a very different role which made them more likely to notice certain attributes that teachers might miss, but at the same time less likely to notice attributes important to teachers. Some structuring of observers' perceptions no doubt occurred because they were using the coding system and thus were concentrating on the teachers and their interactions with target students. Thus, they were more likely to observe target students at times when they were interacting with the teachers than at other times. However, when the teachers were interacting with non-target students, the observers had a chance to observe target students working individually or interacting with peers. Also, critical behaviors of target students were

coded whenever they were observed, even if the teacher was not involved. In general, then, the observers were less focused on student attributes directly related to conduct and achievement, compared to the teachers.

This may have made them more likely to notice student attributes relatively unrelated to teacher and student roles, but their perceptions were subject to different sources of inaccuracy. First, they were less likely to be able to judge attributes like careful work habits or persistence in problem solving accurately, because they did not have access to students' seatwork or assignments. More generally, they observed the target students for only five half-day observation periods; whereas the teachers interacted with these students over the course of a whole school year. This meant that the observers had much less chance to correct mistaken first impressions, and that their observations were much more likely to be affected by sampling error. Because they saw the students only five times instead of almost every day, and because it is possible that certain students were behaving uncharacteristically during these five observation periods, observers may have formed different impressions than the ones they would have formed from observing every day.

The sampling error problem probably was not too great, because observations were spread out as much as possible. Systematic sampling error would have been more likely if observations had been taken during the same week or at least within a short time span, where consistently uncharacteristic behavior is more likely. The more important source of error in observer perceptions probably was the limited opportunity to observe the target students. With many students to observe and only five opportunities to observe them, classroom observers did not have opportunities to develop richly detailed

perceptions of students. Sometimes, in fact, observers could not remember students well enough to rate them with any confidence on one or more of the 13 scales.

Halo Effects

These considerations point to halo effects in both sets of data, but different kinds of halo effects occurring for different reasons. Halo effects are distortions of perceptions that occur because an observer develops a general impression (particularly a generally positive or negative impression) of the person being observed, and this general impression tends to influence ratings on virtually any dimension. Favorable impressions are likely to increase ratings, and unfavorable ratings to decrease ratings.

We expected that halo effects would occur in the teacher data, despite the prolonged opportunities for teachers to interact with and observe their students, because of teacher preoccupation with student attributes important to teacher and student roles. We expected that students perceived favorably on achievement and/or conduct would be perceived favorably on other attributes, and vice versa.

We expected similar phenomena in the observers' ratings, but we did not expect it to be a very strong or important factor. This was because the observers were not playing the teacher role, nor were they observing students primarily with respect to the degree to which they fulfilled the idealized student role. Naturally, they noticed these things because of the setting and the coding system, but they were less likely to consider them crucially important, because they were not playing the teacher role themselves. They were relatively uninvolved, compared to the teachers, and thus less likely

to be susceptible to halo effects relating to teacher and student roles.

On the other hand, their limited opportunity to observe the students (limited both in number of opportunities to observe and in the variety of data available) made them susceptible to halo effects of a different kind. In most cases, their knowledge of students was limited to a relatively small number of specific observations. Halo effects based upon memories of salient or noteworthy events are especially likely under conditions like this where information is limited. Furthermore, with certain students, the number of memorable events was small, probably too small for really accurate rating on all 13 scales. Observers were given the option of not making a rating at all when they had no idea about the student's status on a scale, but they did make ratings whenever they had a general impression, even if the impression was vague. Ratings made under these conditions were especially susceptible to halo effects.

Because of these differences in roles, and because of the likelihood of halo effects in the observations of both sets of informants, we compared data from teachers and observers. This was done both to evaluate accuracy and to try to determine the extent and nature of halo effects.

Ratings on the 13 Scales

The correlations shown in Table C-1 indicate good agreement between the teachers and the classroom observers on most of the 13 scales. The first column of correlations is for the target students who were perceived consistently across all five sets of teacher rankings. The second column contains correlations between teacher rankings and coder ratings for those

students perceived consistently only by the second year teachers. These correlations are included to help assess the accuracy of the second year teachers' perceptions about students seen differently by the first year teachers. We will return to this point later.

Correlation coefficients extend from -1.0 through 0 through +1.0. Correlations at or near zero indicate no relationship between the two variables, while higher correlations in either direction away from zero indicate increasingly stronger relationships. A positive correlation means that teacher rankings in a certain direction on a certain scale were associated with similar observer ratings on the same scale. Thus, high positive correlations indicate good agreement between the teachers and the observers. Low correlations mean less agreement, and negative correlations would mean disagreement in the sense that teachers tended to rate students high on the scale but observers tended to rate the same students low.

Note that all of the correlations in the first column of Table C-1 are positive and statistically significant, showing varying degrees of agreement between teachers and observers. This indicates, as we expected on the basis of our consistency criterion for choosing the target students, that uninvolved classroom observers who did not know how the teachers had ranked these students tended to rank them similarly. Presumably, this means that the student attributes that led to these rankings are reasonably obvious.

Most of the correlations were quite high under the circumstances, in addition to being statistically significant. The teacher rankings had been reduced to 3-point scales, and the coder rankings were originally 3-point scales summed to produce 5-point scales. Where scales are short and of

unequal length (as in this case), it is difficult to achieve extremely high correlations, so that coefficients of about .50 or so indicate high agreement.

Even so, there were differences among scales in degree of correlation. Agreement was highest on variables relating to the teacher and student roles (calm, careful, achieving, cooperative, and persistent), along with the rating of teacher concern for students. The latter finding confirms earlier ones that teacher concern shows itself rather clearly in classroom interaction. The same is true of the relatively lower coefficients for attraction, which presumably is less obvious (although agreement was reasonably high even for this scale). The same was true for mature and noticeable. The lowest correlations also are easily explained. Those concerning happy probably result from a combination of the fact that this is a mood variable subject to change and the fact that the classroom observers were not in good positions to make an accurate judgment about student happiness, compared to the variables discussed earlier.

The relatively low agreement on creativity simply reflects the nature of the variable. Despite wide interest in it, creativity remains difficult to define and measure, let alone rate through simple observation. Finally, the ratings for eye contact barely reached statistical significance, even though this would seem to be an easily observable behavior. The problem with this scale was not accuracy but variance: almost all students looked you in the eye, so that the scale did not discriminate among the students very well. When this happens, there is not much opportunity for agreement or disagreement among different observers, because the great bulk of students get the same score. In summary, the correlations suggest good agreement

between the teachers and the classroom observers, although it clearly was higher for student attributes related to the student role and for the teacher concern about students than it was for the other variables.

The correlations in the right column of Table C-1 are similar to, but mostly lower than, those in the left column. The differences indicate that teachers and observers agreed less about the students seen consistently only by the second teachers than they did about students seen consistently by two teachers across both years. This suggests that some of the students seen consistently by only the second year teachers (and in ways that conflicted with the ways they were seen by the first year teachers) were perceived inaccurately by the second year teachers.

These students probably were the ones who had the highest probabilities for unusual patterns of relationships among variables and for being involved in situations where teacher expectations or attitudes functioned as self-fulfilling prophecies. It should be noted, though, that the differences between the two sets of correlations tend to be either relatively small or explainable on the basis of lack of access to information on the part of the observers. Thus, as the general literature on teacher expectation effects suggests, such effects seem to occur but infrequently.

The patterns of agreement shown in Column 2 are similar to those in Column 1, with two important differences. First, within the general statement that agreement is slightly lower, it remains true that agreement is relatively higher for student attributes related to the student role than for other student attributes. However, this must be adjusted to take into account the information available to the classroom observers. Agreement was good on

attributes that the observers could see and remember accurately (calm, achieving, cooperative, noticeable). The variables careful and persistent showed notably lower agreement here, most probably because the observers did not have access to student work assignments (the best evidence upon which to make ratings of these attributes). Lacking these, the observers had to go by what they saw in the classroom, and it is difficult to rate persistence or care in doing assignments by watching students from across the room. Some students finished their work quickly but nevertheless turn in neat and correct work, while other students may work persistently but not carefully, or may appear to be working when they are not.

Several other things are worth mentioning about the contrasts between the two sets of correlations. First, note that agreement in rating happiness is much higher for the students seen consistently only in the second year. This makes sense if you bear in mind that happiness is likely to be less stable than variables such as general temperament, maturity, work habits, or achievement. It may well be that a significant portion of the students changed in their general happiness levels from Year 1 to Year 2, thus producing the higher correlation for those seen consistently only in Year 2.

The same thing might have happened, although to a lesser degree, for attractiveness. Children change in appearance as they develop, and there may have been systematic changes from Year 1 to Year 2 which led to the slightly higher correlation in the second column of Table C-1. Finally, there is every reason to believe that the same thing was occurring for noticeable.

Thus, when you take into account the availability of reliable evidence to the observers and the probability that certain students changed on certain

attributes, a picture of high agreement between teachers and observers emerges. Agreement was almost as high for the students perceived consistently only in Year 2 as it was for those perceived consistently across both years on many scales, and the differences are quite understandable where correlations went down noticeably and in the three cases where they went up.

Cross Correlations

The degree of halo effect in the ratings can be estimated by looking at the intercorrelations of the 13 scales for the teachers and the coders. These data are shown in Table C-2. Again, the data are only for students perceived consistently across both years by two different teachers in five sets of ratings.

If each scale was utterly unrelated to all other scales, all correlations would be zero. However, it is clear at a glance that the scales are highly intercorrelated. Eleven of the 13 correlated positively in varying degrees, and all 11 of these correlated negative with the concern scale, as expected. The noticeable scale is the only one that did not fit this pattern. In retrospect, we realized that this was because the scale is ambiguous (as worded). It only asks the respondent to state which students stand out; it does not mention the reasons why these students stand out. These and other data from the study suggest that some teachers and observers listed certain students on this scale because they stood out for positive reasons (good achievement, good conduct, etc.) while others chose students noticeable for negative reasons (primarily misconduct).

Except for this single scale, then, the intercorrelations shown in Table C-2 reveal that the scales were related, sometimes quite strongly. In particular, there were high intercorrelations between calm, careful, achieving, mature, cooperative, and persistent, the scales that relate most directly to good work habits and successful school achievement. Also, these six scales related strongly to the two measures of teacher attitudes. Teachers tended to like students who were high on these scales and be concerned about students low on them. The correlations for happy, creative, attractive, and eye contact followed this same general pattern, but much less strongly.

A second point that is seen easily from Table C-2 is that correlations were much higher for teachers than for observers. Of 79 coefficients, teachers were higher than observers on 72 and lower on only six, with one even. This suggests a much higher degree of halo effect in the teacher rankings than in the observer ratings. We will have more to say later about whether this halo effect amounted to an artificial sharpening of real relationships versus distorted perceptions suggesting relationships where none actually existed.

Cross Tabulations

To illustrate more graphically the apparent halo effect of the ratings of students perceived consistently across both years, we have prepared the cross tabulations shown in Table C-3 and C-4. These tables indicate, for each pair of scales, the numbers of students that teachers and observers (respectively) classified into each of the four possible combinations of high and low scores. To the extent that two scales are positively correlated,

a student high on one scale is likely to be high on the other, and a student low on one scale is likely to be low on the other. In this case, scores will pile up in these two cells, and few students will be classified in the cells representing high scores on the first scale and low scores on the second, or in the cells representing low scores on the first scale and high scores on the second.

A contrasting situation that appears when two scales are unrelated is that roughly equal numbers of students appear in each of the four cells, so that there is no tendency for most of the students to be high on both scales (high-high) or low on both scales (low-low). As you can see in Table C-3 and C-4, this was not the case. Except for noticeable, which did not show a clear relationship to the other scales for the reasons already discussed, the cross tabulation shows striking relationships among the scales. Scores pile up in the high-high and low-low cells, except for the noticeable scale already discussed and the concern scale. Actually, the concern scale has the same kinds of strong relationships to the other scales as they do to one another. The difference is that the scores pile up in the opposite cells because this scale correlated negatively with the other scales. Consequently, whereas a student ranked high in persistence would be expected to rank high in achievement or maturity as well, a low ranking would be expected on the concern scale. Similarly, most students ranked high in concern would be expected to rank low on the other scales.

Study these tables, particularly Table C-3, which presents the data from teachers, to fully appreciate the magnitude of these relationships. Notice, for example, that the careful, achieving, and persistent scales did not contain a single exception to the prevailing pattern among them. A

total of 36 children were listed as both highly persistent and high in achievement, and 52 children were listed as low in both. Not a single child of 362 was perceived as consistently high in achievement but low in persistence or (more probably) high in persistence but low in achievement.

In part, relationships like this occur for methodological reasons. We asked the teachers to rank the students on these scales separately, doing nothing to encourage them to think about the scales in combination. It is likely that teachers would have nominated certain students if we had asked something like "Are there students in your class who will work long and hard at their assignments but still do not achieve very highly compared to other students?" or "Are there students in your class who are generally high achievers but who become frustrated and give up easily when they encounter difficult problems rather than persist in seeking solutions?"

Overwhelmingly lopsided relationships like these cannot be explained entirely on the basis of methodology, however. It becomes particularly obvious when you look at these cross tabulations that halo effects were operating here. We had expected relationships among the scales similar to the ones we found, but we did not expect to see just a few exceptions, or even no exceptions at all, to the predominant patterns. Although it probably is true that many or even most of these relationships are real (most high achievers are persistent, and vice versa), it seems obvious that there should be more exceptions than appear in these tables. Notice, for example, that, according to the teachers, no student who was cooperative was not also calm, no high achiever was not also careful, no low achiever was happy, no attractive student was cooperative, and so on. Obviously, these perceptions are incorrect.

The observer ratings showed more exceptions, but still the dominant patterns were striking, and there were some patently unbelievable findings. For example, according to the observers, all students who were persistent also were calm, and no student lacking in persistence was careful or mature. In general, the cross tabulation data in these two tables remind us once again that things seldom are as simply or clear as they appear to be. Expectations, attitudes, and beliefs generally intercorrelate with each other quite nicely, but investigations that go beyond self-reports of perceptions in order to check out the accuracy of perceptions invariably indicate that these strong and clear patterns result more from cognitive consistency needs than from real relationships. Those whom we like rarely are as good as we think they are, and those whom we dislike rarely are as bad as we think they are.

Partial Correlations

It is obvious from the correlations and cross tabulations of the teacher rankings on the 13 scales that halo effects were particularly strong in these rankings in general and in the rankings on certain scales in particular. One way to assess the nature of halo effects on intercorrelations is to compute what are called partial correlations. Ordinary correlations like those presented so far are computed from the raw rating scores. No adjustments are made in the scores before the computation of correlations. These are called zero-order correlation coefficients, indicating that no (zero) other variables have been used to adjust the scores on two particular scales before correlating them.

Partial correlations involve the introduction of adjustments to "hold constant" the effects of one or more other variables on the two variables of interest. For example, we could compute a partial correlation between rankings for persistence and rankings for achievement with rankings for maturity held constant. This would be a first order partial correlation, because the effects of a single variable (in this case, scores on the maturity scale) were removed from the correlation between the achievement and persistence scales. This procedure removes the halo effect that maturity ratings have on ratings of achievement and persistence.

We computed partial correlations of the 13 teacher ranking scales, in order to look at the relationship between each pair of scales when halo effects or other effects of rankings on the other scales were taken into account. This required eleventh-order partial correlations, meaning that all 11 of the other scales were controlled simultaneously in computing the partial correlation between any two particular scales. We could not perform these analyses using only the data for the students perceived consistently across two years, because the number of students for which data were available for any given correlation would have been too low. So, we used all of the rankings available on all of the target students. Wherever, data were missing because the student was perceived inconsistently, the mean score for all rankings on the scale involved was substituted for the missing score.

This procedure made it possible to have a score for all students in the sample without biasing the pattern of intercorrelation of the scales. It did have the effect of reducing the size of the correlations obtained, however, so that even the zero-order correlations computed this way are lower than the

same correlations computed only for students who had scores on both variables.

The data from these analyses are shown in Table C-5. The top coefficient in each pair is the zero-order correlation between the two scales. The bottom one is the eleventh-order partial correlation between the same two scales. Looking first at the zero-order correlations, note that substituting the mean for missing data lowers the general patterns of intercorrelations, compared with the ones in Table C-2. Those in Table C-5 are systematically lower, even though most are statistically significant because the numbers of students included were so large.

Another thing that can be seen by comparing the coefficients in Table C-2 with those in Table C-5 is that the drop in correlation tends to be greatest for coefficients involving scales that appear to involve strong halo effects. The strength and nature of halo effects in these intercorrelations can be seen most clearly by comparing the zero-order correlations in Table C-5 with the corresponding eleventh-order correlations right below them. It is obvious at a glance that relationships between scales usually are much weaker when halo effects have been removed. The partial correlation is lower in 77 of 79 cases. Furthermore, whereas 78 of the zero-order correlations are statistically significant beyond the .05 level, this is true of only 33 of the eleventh-order partial correlations.

These partial correlations, particularly those significant beyond the .001 level, provide the best indication of the relationships among scales when halo effects are controlled. One relationship stands out in particular: the partial correlation between persistence and careful is .39. No other partial correlation exceeds .25. Thus, as the teachers saw it, these two

student attributes were the most closely related of the 13 included in the set of scales.

Students ranked as calm also were likely to be ranked as careful and cooperative, and they were ranked low on noticeable. To a lesser extent, these same students were likely to be rated as mature and to be rated highly on the attachment scale. Note that the relationships between calmness ratings and ratings of achievement and persistence drop out altogether in the partial correlations. This indicates that halo effects from other scales were primarily responsible for the zero-order correlations of calmness with achievement and persistence.

Students described as careful also were likely to be described as achieving and persistent, and, to a lesser extent, as attractive. Strong relationships with the careful scale which dropped out completely in the partial correlations include those for maturity, cooperation, attachment, and concern. In general, the data for the careful scale indicate that it was strongly affected by halo effects.

Students described as happy also were described as noticeable. To a lesser extent, they were described as cooperative, attractive, persistent, and likely to maintain eye contact. This suggests a general pattern of social attractiveness in physical features and interpersonal relationships for the students described as happy.

The achievement scale showed the greatest number of strong relationships with other scales, suggesting that it probably was the largest single contributor to halo effects in the intercorrelations. Students described as high achievers also were described as careful, mature, creative, and

noticeable, and the teachers were relatively unconcerned about them. To a lesser extent, the teachers also described these students as persistent. In general, the pattern of relationships for the achieving scale indicate that the high achievers were rated as such primarily because of high ability.

Note that the partial correlations show no relationship between the achievement scale and the rankings on calm or cooperative, indicating that these students were not notably better behaved than their classmates. Also, despite their high ratings on achievement and even on creativity, the partial correlation with teacher attachment was near zero. Thus, independent of more personal attributes, achievement based primarily upon sheer ability apparently is unrelated to teacher attachment. It is negatively related to teacher concern, most probably because the teachers have little need to be concerned about these bright students.

Children described as mature also were likely to be described as highly achieving, cooperative, and creative, and to a lesser extent as calm, unattractive, and persistent. The pattern for maturity is similar in many ways to the pattern for achievement, suggesting that maturity rankings reflect intellectual development more than physical or social development. It is not possible to tell from these data whether the description of mature students as unattractive is based primarily upon physical or upon social characteristics.

Students described as cooperative also were described as calm, mature, and likely to be objects of teacher attachment. To a lesser degree, they also were described as happy, persistent, not especially noticeable, and unlikely to be objects of teacher concern. These data suggest that classroom

conduct and the interactions with teachers that affected cooperation ratings were particularly important correlates of teacher attitudes. Teachers were likely to be attached to, and unlikely to be concerned about, students who were cooperative. This was true even though cooperation was unrelated to achievement, creativity, or attractiveness in the partial correlations. This confirms the expectation that the degree to which student behavior corresponds to the ideal student role is central to teacher attitudes more so even than achievement.

Students described as creative also were described as achieving, mature, attractive, and noticeable. In general, the pattern of relationships here suggests that teachers' creativity rankings were associated with a generally positive pattern of student characteristics. This conflicts with the suggestion of Getzels and Jackson (1962) that teachers dislike students perceived as highly creative. The teachers rated these students as attractive, and the attitude rankings show no indication of a negative response to these students. The contrast with the correlations for the cooperation scale suggests that teacher attitudes are much more closely related to student conduct than to creativity.

Students described as attractive also were described as creative and as objects of teacher attachment. To a lesser extent, they also were described as careful, happy, immature, and noticeable. The negative relationship with maturity is somewhat surprising, especially in view of the positive relationship with the attachment scale. These data raise the question of whether physically attractive students are especially likely to become objects of teacher attachment, or, instead, whether students that teachers become

attached to are especially likely to be perceived as attractive. Also, the negative relationship with the maturity scale raises questions about the interaction of physical attractiveness with teacher perceptions of maturity.

Students described as persistent were especially likely to also be described as careful and as objects of teacher attachment. In addition, they were likely to be described as happy, achieving, mature, and cooperative. The general pattern here suggests high self-esteem, enjoyment of the student role, and willingness to put considerable care and effort into assignments. Although these students are described as relatively high achievers, the general pattern suggests that students rated high on the persistence scale were hard workers. This contrasts with the students rated highly on the achievement scale, who appeared to be achieving more through sheer ability than through hard work.

With this in mind, it is particularly interesting to note that the persistent students were likely to be objects of teacher attachment, but the high achievers were not. This suggests that teacher attitudes are more affected by student effort than sheer ability. Also, students described as persistent were not likely to become objects of teacher concern, even though the zero-order correlations suggest that they were. Apparently, teachers were more concerned about students who were less likely to overcome difficulties through their own efforts than the persistent students were.

Students described as objects of teacher attachment were ranked highly on cooperation, attractiveness, and persistence, and significant relationships also appeared for calm and for eye contact. As stated earlier, this combination suggests that teachers are most likely to become attached to students who

combine general social attractiveness with general cooperation and willingness to play the idealized student role. It is interesting that self-control, cooperation, physical attractiveness, persistence, and eye contact all are non-cognitive characteristics. Achievement, maturity, and creativity were unrelated to teacher attachment. Also, students described as happy were not especially likely to be objects of teacher attachment, and the two teacher attitude scales (attachment and concern) were unrelated in the partial correlations.

The partial correlations for the concern scale are puzzling. Even after removal of halo effects through partialling, the general pattern is negative, and only two coefficients are significant. Teachers were most likely to be concerned about students who were low achievers and students who were uncooperative. Independent of these scales, there was no significant relationship between teacher concern and such student attributes as carelessness, unhappiness, immaturity, or lack of persistence. This again underlines the fact that teacher attitudes are focused on student attributes central to the student role.

Students described as noticeable were particularly likely to be described as happy, achieving, and restless, and also likely to be described as uncooperative, creative, attractive, and likely to maintain eye contact. This mixed pattern illustrates what has been said earlier about this scale. Apparently, some students were ranked highly on noticeable because they had positive attributes like achievement, happiness, or attractiveness, while others were ranked highly on noticeable because they had noticeable negative attributes like restlessness or poor cooperation.

It is interesting to speculate about the other end of this scale. The pattern suggests that the least noticeable students are calm and cooperative but not outstanding on any of the other characteristics included in the set of rankings. This suggests passive and complaint students who are not notably bright or high achieving and do not have other qualities that call attention to themselves. There are suggestions that these students might be unhappy, unattractive, and generally low in self esteem, although additional data would be needed to assess this possibility.

The partial correlations for the eye contact scale, like the zero-order correlations, are the weakest of the 13 sets. The three partial correlations that did reach statistical significance suggest that students rated high on eye contact were described as happy, as objects of teacher attachment, and as noticeable. This is not much, but the pattern is fascinating as far as it goes. Both folk wisdom and psychological studies of body language (Efran, 1969) suggest that eye contact is correlated both with self esteem (which might explain the relationships with happy and noticeable) and with mutual attraction (note the relationship to teacher attachment). Thus, although it probably is simply a correlate rather than either a cause or an effect, eye contact apparently is a useful clue to student self esteem and to the quality of the teacher-student relationship.

Adjective Description Variables

In addition to data on the 13 student attribute scales, data from the adjective descriptions of students provide another basis for comparing the viewpoints of teachers with those of the classroom observers. Recall that each teacher and each classroom observer was asked to give three adjectives or brief descriptive phrases indicating the attributes most characteristic

or noteworthy (in their opinion) of each target student. Only three responses were allowed, but any adjective or descriptive phrase that came to mind was accepted; there was no checklist or list of suggested adjectives.

The original responses were grouped and ultimately sorted into the categories shown in Table C-6. Each category included several different adjectives and short descriptions, but for convenience of communication we have chosen a single adjective or phrase to characterize the category as a whole. A full list of terms making up each category will be found in Appendix D. Most of the terms are self explanatory, although a few require comment.

Sociable (1) refers to friendliness and sociability in interaction, mostly with peers. Helpful (5) refers mostly to willingness or even eagerness to help the teacher by running errands or doing favors. However, it includes perceptions of general willingness to abide by teacher requests. Still, it has a more narrow and specific meaning than well-behaved (6), which refers to students' general classroom conduct.

Motivated (8) refers to the degree to which the student appeared to be self-motivated in working on assignments and thus not in need of external pressure or reinforcement from the teacher. Good worker (11) refers to attentiveness, care, and persistence in working on seatwork assignments. Although there is a degree of correlation, for obvious reasons, good worker is independent from achieving (10), which refers to general student success in mastering the curriculum, independent of the work habits described under good worker.

Popular (12) refers to peer popularity, or the degree to which students were well liked by their peers. It differs somewhat from sociable (1) in

that students classified as sociable were those who often initiated social interactions with peers. These highly sociable students were not necessarily popular with their peers, and not all students who were popular were particularly sociable. Both of these peer interaction categories also differ from social leader (24). Social leaders were students looked up to for leadership by the peer group. They were not necessarily highly sociable or even highly popular, although they usually were the latter.

Active (15) refers to sheer activity level, but aggressive (13) refers to hostile interactions with peers. Students classified as active were physically active but not necessarily aggressive. Those classified as aggressive were bullies or others who frequently got into disagreements or fights. Temperamental (18) refers to students who became upset easily, cried when frustrated, or were generally immature in emotional development. Temperamental does not have an aggressive connotation, however. In fact, the students classified as temperamental were in many ways the opposites of students classified as aggressive.

Humorous (21) included students described as having a good sense of humor, students described as being funny, and students described as being silly in their classroom antics. Likeable (25) refers to the degree to which students were perceived as likeable by the adult giving the description. Students classified here were not necessarily well liked by their classmates, and students described as likeable by teachers were not necessarily described as likeable by classroom observers, and vice versa. In contrast to likeable, which refers to students' general appeal to the adults describing them, attractive (26) is limited to perceptions of students' physical attractiveness.

Students seen as physically attractive were classified here, while those seen as attractive in a more personal sense were classified as likeable.

Students classified as dependent (27) were those who were particularly dependent upon the teacher for continuous help, guidance, or reassurance.

The first 27 categories were applied to the statements of both teachers and classroom observers. Categories 28 through 36 apply only to the teachers, and categories 37 through 39 apply only to the observers.

Good home (28) refers to teacher statements that the student came from a good home, that the student had been well prepared for school by the parents, that the parents were especially cooperative, and so on. Cries easily (34) is similar to temperamental (18), except that it refers specifically to students' tendency to cry when frustrated or to whine or pout when upset. These students also were included as a subset of the students classified as temperamental. However, many other students not so prone to cry also were included in the temperamental category.

Untrustworthy (35) students were those described as likely to lie, cheat, steal, copy, or be generally sneaky and untrustworthy in their behavior. These students had no credibility with the teachers because they had done such things frequently, so much so that the teachers mentioned them when asked to give their three most characteristic attributes.

The last three variables appeared only in the observer data. Good teacher relations (37) was coded when the observer felt that a student had particularly good relationships with the teacher and/or was an object of teacher favoritism. Female stereotype (38) encompasses adjectives used to describe some of the female students which refer to traditionally stereotyped female attributes

(prim, prissy, delicate, ladylike, etc.). Bossy (39) refers to persistent attempts (whether or not successful) to "boss around" other students.

Categories 1-21 and 24-39 are those which occurred with sufficient frequency (at least 1% of the responses) to be useful for statistical analyses. In addition to these categories, there were many others with frequencies too low to be useful. However, most of the adjectives in them still could be classified as generally positive or generally negative in their implications about the students. Those which seemed to be clearly positive in their implications about the students (gentle, well-rounded, dignified) were grouped into an "Other Positive" category (25). Similarly, leftover descriptions that seemed to be clearly negative in their connotations about the students (tattle-tale, clumsy, selfish) were grouped into an "Other Negative" category (22). A few descriptions that could not be classified either way (animal lover, low key person) were not used at all.

Finally, a "percent positive" score (40) was computed for students by dividing the number of positive statements made about them by the total of positive and negative statements.

Comparison of Teacher and Observer Descriptions

In general, the student attributes named in free response descriptions by teachers and classroom observers were similar in frequency and pattern. Not counting the "Other Negative" and "Other Positive" categories, 25 categories appeared often enough to be used as categories in both sets of data. In contrast, there were only nine categories that appeared in the teacher data but not in the observer data, and only three that appeared in the observer

data but not the teacher data. In general, then, the two kinds of adult observers noted similar student characteristics. However, there are certain interesting differences in pattern that reveal some of the differences in perspectives associated with the teacher role versus the classroom observer role.

Before describing these, it is important to make some distinctions among the categories themselves. Although we have used brief terms in Table C-6 to facilitate communication, it should be kept in mind that many of the categories actually were bipolar categories which allowed for scoring students as low versus high on the variable. Other categories were unipolar ones in which students were scored "1" if the category was used in describing them and scored "0" if it was not.

Categories 1-12, 24-28, and 37 were bipolar categories. Thus, sociable (1) really is "sociable versus unsociable." Students described as sociable were scored "2" on this variable, and students described as unsociable, shy, or socially withdrawn were scored "1." Similarly, the mature scale (2) includes students described as immature, the happy scale (3) includes students described as unhappy, and so on. In each case, the descriptor given in Table C-6 indicates the characteristics of students scored high on the scale.

These variables were scored only for students mentioned as either high or low on the scale. All of them except for well-behaved (6) and achieving (10) had two categories, high and low. The others had three categories. Students described as well-behaved were scored "3," students described as having mild behavior problems were scored "2," and students described as having severe behavior problems were scored "1." Similarly, students

described as high achievers were scored "3," students described as average achievers were scored "2," and students described as low achievers were scored "1."

Analyses involving these bipolar categories involved comparisons only among those students scored for the category. Thus, for these categories, the students scored low were compared with those scored high (well-behaved and achieving, three groups were compared). In contrast, all students were included in analyses involving unipolar scales. Students scored "1" for the variable were compared with all other students, who were scored "0."

Categories 24 through 27 were treated differently for the teachers and the classroom observers. These had to be scored as unipolar categories for the teachers. This was because teachers mentioned students as social leaders, as likeable, as attractive, or as teacher dependent, but they did not mention the opposites of these adjectives often enough to form bipolar categories. In contrast, the classroom observers did. Thus, the classroom observer data for these categories are bipolar. Category 24 is "social leader versus social follower," category 25 is "likeable versus obnoxious," category 26 is "attractive versus unattractive," and category 27 is "dependent versus self-reliant," for the observer data.

This information, combined with the information about percentage use of each category by teachers and by classroom observers (shown in Table C-6), helps illustrate the similarities and differences in the perspectives of these two sets of adult respondents. First, the categories which appeared most frequently in both sets of data referred to student attributes that are of social importance and are easy to recognize. Nine

of the categories are synonymous in varying degrees with nine of the 13 scales: calm (active), careful (good worker), achieving (achieving), mature (mature), cooperative (well-behaved), attractive (attractive), persistent (motivated), happy (happy), and noticeable (unobtrusive). In addition, creative appears both in the teacher rankings and in the teacher adjective descriptions, although this did not appear often enough in the classroom observer data to form a category of its own. The reason appears obvious: teachers had extended opportunities to interact with the students, and unlike the observers, they had opportunities to inspect student work. Thus, they were in a better position to know about and report student creativity than the observers were.

Although the correspondence is less exact, the adjective description category likeable (25) is similar to the attachment scale. Thus, of the 13 scales, only two did not appear in some form in the adjective descriptions: concern and eye contact. The absence of eye contact is not surprising. First, most students apparently maintain eye contact regularly. Perhaps more importantly, those who do not probably were described with more general terms like shy or withdrawn than with specific descriptions of eye contact.

The remaining scale, concern, does not appear directly in any of the adjective descriptions, but it is easy to see that many of them would be related to teacher concern. It is reasonable to suppose, for example, that teachers would not be concerned about students described as happy, well-behaved, or achieving, and that they would be concerned about students described as aggressive, temperamental, or underachieving.

The free response mode used in collecting adjective descriptions did succeed in supplementing our self-report data on students by introducing

a variety of variables that do not appear on the 13 scales: sociability, quiet versus talkative, helpfulness towards the teacher, self-confidence, intelligence, popularity, aggression toward peers, responsibility, consideration for others, attentiveness, frustration tolerance, athletic ability, humorousness, social leadership, and teacher dependency. In addition, the data added elaborations of the themes tapped by the 13 scales. Also, teacher data provided information about the home backgrounds and general health of the students, and the data provided by the classroom observers included information about the quality of the teacher-student relationship. This information proved helpful in determining some of the reasons why teachers ranked students as that they did.

Like other differences between the teachers and the observers, the differences in percentage use of adjective description categories seem readily explainable by differences in roles and in opportunity to observe. The percentages for teachers usually are a little lower than those for the observers in the first 27 categories used in common. This is mostly because teachers used more categories exclusively than the observers did. In turn, this seems due to mostly to differences in opportunities to know about some of the things reported.

In particular, 7% of the teacher comments concerned the nature of the home or family that students came from. This is an important consideration, but it is one that classroom observers typically would not know much about. The same is true for medical problems, excessive absences, and broken homes, which accounted for another 5% of the descriptions given by teachers but not observers. Teachers also were in a better position than observers to

report information about creativity (29), underachievement (33), and untrustworthiness (35). The same probably also was true of sweet (32) and cries easily (34).

Similarly, the observers were in a better position to observe good teacher relations and, particularly teacher favoritism (37). It is not surprising that this does not occur as a category in the teacher data. Teachers often are not aware of favoritism, and they are unlikely to report it even if they are aware of it.

The last two categories are interesting, especially if they really do represent student qualities that the teachers did not mention. However, it is possible that the characteristics described with stereotyped female terms by the observers were the same ones that the teachers called sweet, likeable, or attractive. If they were not, the difference between the two sets of adult respondents could reflect differences in value systems. Teachers, particularly elementary school teachers, tend to be traditional in their values and attitudes (Sherman, Brophy, Evertson, & Crawford, in press). In contrast, most of the classroom observers were graduate students with non-traditional ideologies, especially in matters relating to sex roles. Thus, perhaps teachers pay little attention to stereotyped female sex role behavior because they find it familiar and expected, but observers notice and report it because they find it objectionable.

Similar differences might have been involved in the perceptions of bossiness (39). Teachers apparently are less likely to notice this trait or think it is particularly important, perhaps because they are more used to it or perhaps because they place greater stress on other things. Also, observers were sensitized to such behavior because they had coded it. Thus,

they were especially likely to notice and remember it.

Interestingly, differences appear in the adjective description variables shared in common by both groups. The observers seemed to be especially sensitive to peer relationships, degree and kind of activity in the classroom, and relationships with the teacher. Teachers were relatively more sensitive to achievement, motivation, and the degree to which students were considerate and helpful. Both groups were sensitive to evidence of intelligence or achievement and to the nature of student work habits. This suggests differences both in role and in opportunity to gather information. Teacher perceptions were focused more on the student attributes central to the teacher and student roles, to the relative neglect of peer relationships and more purely personal attributes.

There also was a difference in the general positive versus negative tone of the descriptions. More specific analyses revealed that the difference was specific to female students. Teachers and observers were balanced in their descriptions of boys, but teachers were notably more positive than observers in their descriptions of girls. It is difficult to say how much of this was due to social desirability (teachers saying the expected thing or the thing that seemed acceptable) and how much represents the genuine difference in outlook, but teachers were more positive than observers in their descriptions of the students. For example, teachers described students as social leaders, likeable, and attractive, but did not describe them as followers, obnoxious, or unattractive often enough to allow the creation of bipolar categories on these variables. Observers did, however.

Also, many categories that appeared only in the teacher data could be seen as attempts to explain or provide some rationalization for students

who were having difficulties at school. About three fourths of the teacher comments about the home and family were comments about home problems that made things difficult for students, and they also mentioned medical problems, absences, and broken homes frequently.

In general, the data in Table C-6 suggest that the teachers perceived the students generally more positively than the observers did, or that if they did not, they kept many of their negative perceptions to themselves. If this is real, it may be another example of the "familiarity" effect noted in social psychology (Zajonc, 1968). Several studies have indicated that sheer familiarity breeds attraction. That is, individuals who share continuing and close relationships with one another for initially accidental reasons typically "grow on" and begin to like one another. Other experiments suggest that simply familiarity with a stimulus is likely to make it preferable to unfamiliar stimuli. Perhaps dynamics like these even affect perception, tending to make people seek the positive and ignore or rationalize the negative in others with whom they are going to have to live together and get along with.

Summary

The teacher rankings and coder ratings on the 13 student attribute scales show generally good agreement between these two sets of observers. However, both data sets, but especially the teacher rankings, were influenced heavily by halo effects. This could be seen in cross tabulation data, which revealed a striking lack of exceptions to the prevailing patterns of

relationships among scales, in intercorrelations across scales, which revealed that correlations of particular teacher rankings with their corresponding coder ratings usually were exceeded by one or more correlations with some other coder rating, and by partial correlations showing generally large drops between zero-order correlations and eleventh-order partial correlations.

The data indicated that halo effects were especially notable for the calm, careful, and mature scales, all of which seem to have been influenced strongly by the ratings for persistent and achieving. Other relationships suggested that achievement rankings mostly reflected perceived student ability, but that persistence rankings reflected perceived student effort. Teacher attachment was related to social attractiveness and compliance with school regulations, but not particularly to achievement. However, achievement was basic to teacher concern. In general, the interrelationships among the partial correlations suggest that the teacher rankings on the 13 attribute scales for the students perceived consistently across five data sets are basically valid, despite the presence of considerable halo effect.

Comparison of the adjective description variables used by teachers and observers reveal general similarity. Most of the 13 scales were represented in identical or very similar adjective description categories, and the similarities in type and frequency of use of various categories were more striking than the differences. The differences that did occur are explainable on the basis of role differences and differences in opportunities to observe certain student attributes, for the most part. However, some of the minor differences that did appear suggest that factors other than these might also be involved.

These include value differences in traditionalism, particularly with respect to sex roles, and the possibility that prolonged interaction with students makes teachers perceive them more favorably than observers perceive them.

Table O-1. Correlations between Teacher Rankings and Ooder Ratings of 13 Student Attributes for Students Perceived Consistently Both Years and Students Perceived Consistently Only in Year Two.

Attribute	Correlation for Students Perceived Consistently Both Years	Correlation for Students Perceived Consistently in Year Two Only
Calm	.59 ***	.51 ***
Careful	.49 ***	.34 **
Happy	.30 ***	.43 ***
Achieving	.54 ***	.47 ***
Mature	.43 ***	.39 ***
Cooperative	.49 ***	.45 ***
Creative	.28 ***	.19 *
Attractive	.34 ***	.36 ***
Persistent	.48 ***	.31 **
Attachment	.37 ***	.27 **
Concern	.46 ***	.35 ***
Noticeable	.43 ***	.49 ***
Eye Contact	.20 *	.13

* $p < .05$

** $p < .01$

*** $p < .001$

Table 2. Correlations across scales for Teachers and Observers.

	Calm	Careful	Happy	Achieving	Mature	Cooperative	Creative	Attractive	Persistent	Attachment	Concern	Reliable	Eye Contact
Calm													
Careful													
Happy													
Achieving													
Mature													
Cooperative													
Creative													

Table C-2 Continued

	Calm	Careful	Happy	Achieving	Mature	Cooperative	Resistant	Attractive	Persistent	Attachment	Concern	Noticeable	Eye Contact
Attractive							.0555		.0555	.0555	-.0155	.0555	.0555
Persistent							.0555		.0555	.0555	.0555	.0555	.0555
Attachment										.0555	.0555	.0555	.0555
Concern											.0555	.0555	.0555
Noticeable												.0555	.0555
Eye Contact													.0555

¹ The top correlation in each pair is for teacher rankings, and the bottom correlation in each pair is for coder ratings.

^ap < .05

^bp < .01

^cp < .001

Table C.3. Tabulations across Teacher Rankings for Students Perceived Consistently Both Years.

	Calm	Careful	Happy	Achieving	Mature	Cooperative	Creative	Attractive	Persistent	Attachment	Concern	Reliable	Eye Contact												
	L	H	L	H	L	H	L	H	L	H	L	H	L	H											
Calm	Low	38	00	14	03	27	06	32	01	31	00	09	06	13	02	30	00	21	00	03	21	02	16	11	06
	High	00	34	02	23	08	33	01	37	00	40	02	19	05	19	01	34	00	34	00	29	03	12	10	03
Careful	Low	13	01	39	00	39	01	39	01	20	00	16	09	16	01	37	00	32	00	03	27	06	07	12	02
	High	01	26	00	32	01	43	01	43	01	41	01	29	01	21	00	60	01	41	36	00	03	21	01	20
Happy	Low	09	00	09	00	12	00	19	01	09	02	09	02	17	03	17	01	14	00	00	10	06	07	10	01
	High	00	29	01	27	01	27	01	23	00	13	00	13	00	16	00	31	00	26	22	02	02	24	00	16
Achieving	Low	41	01	21	01	41	01	21	01	26	02	26	02	21	01	36	00	21	02	02	30	13	03	17	00
	High	01	49	03	36	01	49	03	36	01	29	01	29	02	16	00	32	01	42	44	00	02	26	01	20
Mature	Low	31	01	21	02	21	02	21	02	21	02	21	02	17	02	37	00	23	00	01	25	06	03	13	00
	High	01	42	01	29	03	16	01	43	02	44	02	44	03	16	01	43	02	44	39	01	07	16	02	17
Cooperative	Low	06	09	20	02	20	02	20	02	06	09	06	09	20	02	28	01	24	00	01	22	02	10	10	02
	High	02	19	00	13	00	13	00	13	00	44	00	44	00	13	00	44	00	36	30	00	07	12	00	10
Creative	Low	13	00	13	00	16	01	13	02	03	12	01	07	00	02	16	01	13	02	03	12	11	01	07	00
	High	02	16	04	26	01	26	01	26	01	26	02	16	04	26	01	26	01	20	20	02	01	17	00	16

Table 6-3 Continued

	Calm		Careful		Happy		Achieving		Mature		Cooperative		Creative		Attractive		Persistent		Attachment		Concern		Noticeable		Eye Contact	
	L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H
Attractive	low																									
																	19	01	22	02	03	13	12	03	11	01
Persistent	low																02	20	01	20	13	01	03	20	01	13
Attachment	low																		27	01	02	23	12	06	13	01
																			01	46	39	00	03	21	01	20
Concern	low																									
																					07	17	06	06	14	01
Noticeable	low																				33	02	03	19	00	18
Eye Contact	low																									
	low																									
	low																									
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Table C-4. Tabulations across Observer Ratings for Students Perceived
Consistently Both Years.

	Calm	Careful	Happy	Achieving	Mature	Cooperative	Creative	Attractive	Persistent	Attachment	Concern	Noticeable	Eye Contact
	L	H	L	H	L	H	L	H	L	H	L	H	L
Calm													
Low													
High													
Careful													
Low													
High													
Happy													
Low													
High													
Achieving													
Low													
High													
Mature													
Low													
High													
Cooperative													
Low													
High													
Creative													
Low													
High													

Table C-4 Continued

[illegible]

Shown for each pair of scales are the numbers of students falling into each of four types: those low on both scales; those low on the first scale and high on the second; those high on both scales; and those high on the first scale and low on the second.

Table C-5. Comparison of Zero-Order Correlations and Eleventh-Order Partial Correlations
for Teacher Rankings of All Students.¹

	Calm	Careful	Happy	Achieving	Mature	Cooperative	Creative	Attractive	Persistent	Attachment	Concern	Noticeable	Eye Contact
Calm		.54***	.29***	.35***	.52***	.60***	.13**	.19***	.49***	.47***	-.35***	-.13**	.17***
Careful			.07	-.01	.16**	.25***	-.04	-.02	.01	.11*	.00	-.23***	-.03
Happy				.33***	.61***	.59***	.31***	.33***	.73***	.51***	-.51***	.14**	.33***
Achieving					.09	.07	-.04	.11*	.39***	-.05	-.08	.00	.05
Mature						.40***	.19***	.35***	.43***	.42***	-.30***	.24***	.54***
Cooperative							-.06	.16**	.13*	.09	-.02	.17***	.15**
Creative								.30***	.61***	.47***	-.56***	.31***	.37***
								.00	.11*	.04	-.24***	.17***	.05
								.24***	.63***	.53***	-.48***	.12*	.33***
								-.11*	.14*	.08	-.02	-.02	.06
								.30***	.58***	.56***	-.46***	-.04	.22***
								.10	.12*	.19***	-.17**	-.13*	-.06
									.33***	.30***	-.32***	.30***	.30***
								.17***	.01	.03	.07	.13*	.08

Table C-5 Continued

	<u>Calm</u>	<u>Careful</u>	<u>Happy</u>	<u>Achieving</u>	<u>Mature</u>	<u>Cooperative</u>	<u>Creative</u>	<u>Attractive</u>	<u>Persistent</u>	<u>Attachment</u>	<u>Concern</u>	<u>Noticeable</u>	<u>Eye Contact</u>
Attractive									.33***	.39***	-.24***	.24***	.27***
									-.02	.17***	.03	.11*	.04
Persistent										.60***	-.52***	.18***	.35***
										.20***	-.06	.05	.00
Attachment											-.42***	.13*	.39***
											-.02	-.02	.17**
Persistent												-.19***	-.29***
												-.05	-.03
Noticeable													.30***
													.15**
Eye Contact													-

† These correlations are for all target students, not just those perceived consistently. Scale means were used when scores were missing. The zero-order correlations (the top ones in each pair) are the simple Pearson correlations for pairs of scales. The eleventh-order partial correlations (the bottom ones in each pair) show the relationships between each pair of scales when the effects of the eleven other scales are held constant. Many low correlations were statistically significant because N 's were high (360 for zero-order r 's; 349 for partial r 's).

* $p < .05$

** $p < .01$

*** $p < .001$

Table C-6 . Adjective Description Variables Used Frequently
by Teachers and Classroom Observers-

	<u>Teacher %</u>	<u>Observer %</u>
1. Sociable	4	9
2. Mature	2	2
3. Happy	3	4
4. Quiet	6	9
5. Helpful	5	3
6. Well behaved	3	5
7. Confident	3	3
8. Motivated	5	2
9. Intelligent	6	6
10. Achieving	6	4
11. Good Worker	9	10
12. Popular	3	6
13. Aggressive	1	2
14. Responsible	1	1
15. Active	2	5
16. Considerate	2	1
17. Inattentive	1	2
18. Temperamental	1	1
19. Unobtrusive	1	3
20. Athletic	1	1
21. Humorous	1	1
22. Other Negative	2	3
23. Other Positive	4	2
24. Social Leader	1	3

Table C-6 Continued:

25. Likable	3	3
26. Attractive	3	3
27. Dependent	1	4
28. Good Home	7	-
29. Creative	2	-
30. Medical Problems	2	-
31. Often Absent	1	-
32. Sweet	1	-
33. Underachiever	1	-
34. Cries Easily	2	-
35. Untrustworthy	1	-
36. Broken Home	2	-
37. Good Teacher Relations	-	2
38. Female Stereotype	-	1
39. Bossy	-	1
	99%	102%

Appendix D
Frequency Distributions of Descriptive Adjectives
Used by Classroom Observers and by Teachers in
Free-Response Sketches of the Target Children

EXPLANATION OF TABLE NUMBERS

1. The first number opposite the variable name is the number of children actually scored for that variable.
2. The second number is the percent of the total number of adjectives given which were scored on that variable (to the nearest whole %).
3. The number opposite each adjective under each variable name is the frequency with which that specific adjective or description was given (or at least an almost identical one in form and meaning).

NOTE: The sum of the frequencies for each adjective subsumed under the variable name does not invariably equal the number of children actually scored for that variable. This occurred because a specific adjective was counted each time it was used, but if 2 or more adjectives/descriptions were given for a given child which fell under the same variable name, the child was scored only once for that variable. Example: If a child was described as "likeable" and "has a good personality," he would only receive one score for the variable LIKEABLE, yet each adjective would also be listed under variable composition. Hence frequently the two values will not be equal.

CLASSROOM OBSERVERS' ADJECTIVE DESCRIPTIONS

VARIABLE COMPOSITION

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>f %</u>
I. Sociable		75	9
	Friendly	27	
	Outgoing	11	
	Sociel/sociable	11	
	Gregarious	8	
	Playful	5	
	Outspoken	4	
	Enjoys working with others	2	
	Socially interactive	2	
	Interactive (aggressively) w/ peers	2	
	Moderately interactive w/ peers	1	
	Extroverted	1	
	Disrupts through social chat & play	1	
	Engages in much social play	1	
	Too many social interests to be academic	1	
	Socially interactive & playful	1	
	Socially nature and active	1	
	Assertive	1	
	Socially oriented	1	
	Attends to peers	1	
Not sociable		80	
	Shy	27	
	Reserved	15	
	Non-interactive	7	
	Introverted	7	
	Passive with peers	6	
	Keeps to self	4	
	Timid	4	
	Private	3	
	Has few peer interactions	3	
	Passive	3	
	Withdrawn	3	
	Works alone	3	
	Alone	3	
	Baseful	2	
	Socially non-interactive	2	
	Not social, but has friend	2	
	Remains in background socially	2	
	Introspective	2	
	Won't socialize	1	
	Unassertive	1	
	Doesn't mix much w/ peers	1	
	Shuck-up	1	
	Prefers solitude	1	
	Outsider from cliques	1	
	Restrained	1	
	Reticent	1	
	Reads instead of interacting	1	
	Keeps to self	1	
	Retiring	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>Σ</u>
2. Mature		16	2
	Mature	18	
	Mature in actions	1	
Not mature	Immature	17	
	Big baby	1	
	Naive	1	
3. Happy		46	4
	Happy	30	
	Cheerful	12	
	Fun loving	5	
	Jovial	3	
	Good humor	2	
	Easy to laugh	1	
	Engagingly happy	1	
	Vivacious	1	
	Gloating	1	
	Smiley	1	
Not happy		27	
	Serious	11	
	Unhappy	3	
	Worried-looking	2	
	Frowner	1	
	Doesn't smile	1	
	Non-emotive	1	
	No effect	1	
	Easily upset	1	
	Somber	1	
	Sad	1	
	Grumpy	1	
	Silent	1	
	Grimacing	1	
	Howling grumpiness	1	
	Sober	1	
	Discouraged	1	
	Never smiles	1	
	Not overtly happy	1	
	Lack of emotional expression	1	
	Emotionally controlled	1	
4. Quiet		129	9
	Quiet	149	
	Soft-spoken	2	
	Silent	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>PAN FREQUENCY</u>	<u>2</u>
Not quiet		28	
	Talkative	13	
	Loud	8	
	Boisterous	5	
	Talker	2	
	Chatty	2	
	Talks a moderate amount	1	II
	Strill	1	
5. Helpful		38	3
	Cooperative	16	
	Helpful	11	
	Compliant	5	
	Eager to please	4	
	Wants to help teacher	2	
	Enjoys helping	1	
	Responsive to peer and teacher wishes	1	
Not helpful		22	
	Defiant	9	
	Defies	2	
	Uncooperative	2	
	Sullen	2	
	Sassy	2	
	Sullen if provoked	2	
	Hostile	1	
	Argumentative	1	
	Ignores teacher directives	1	
	Smart-ass attitude	1	
	Antagonistic	1	
	Likes his own way	1	
	Smart aleck	1	
6. Well behaved		21	5
	Well behaved	9	
	Good behavior	7	
	No discipline problems	3	
	Doesn't get into trouble	1	
	Acceptable behavior	1	
	Adequate behavior	1	
	Model behavior	1	
Not well behaved (mild)		25	
	Mischievous	8	
	Slow-off	4	
	Occasionally disruptive	3	
	Sometimes troublemaker	2	
	A little disruptive at times	2	
	Minor discipline problem	1	
	Needs to be controlled	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>Σ</u>
Not Well Behaved (mild)	Cont'd		
	Behavior to + & - extremes	1	
	Behavior problem due to social clash	1	
	Gets into trouble	1	
	Undisciplined at times	1	
	On the fringe of trouble, but doesn't start it	1	
		12	
Not well behaved (severe)	Troublemaker	13	
	Disruptive	9	
	Requires much management	5	
	Frequently disruptive	3	
	Unwitting troublemaker	2	
	Undisciplined	2	
	Bothers others	2	
	Gets a lot of behavioral contacts	1	
	Always gets into trouble	1	
	Attracts trouble	1	
	Roll on wheels	1	
	Behavior problem	1	
	Usually in trouble	1	
	Discipline problem	1	
	Causes trouble	1	
	Frequently disciplined	1	
	Capable of causing trouble	1	
	Troublesome	1	
		23	3
7. Confident	Confident	9	
	Self-confident	2	
	Relaxed	2	
	Calm	2	
	Calm	2	
	Feels superior	1	
	Over-confident	1	
	Sure of self	1	
	Self-assured	1	
	Socially confident	1	
	In-self-conscious	1	
	Foiled	1	
	Composed	1	
Not confident		24	
	Lacks confidence	5	
	Insecure	5	
	Anxious	5	
	Unsure	4	
	hesitant	1	
	Feels inferior	1	
	Unsure of peers	1	
	Unsure of work	1	
	Nervous	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>D-5 f</u>
8. Motivated		24	2
	Interested	10	
	Inquisitive	3	
	Enthusiastic	2	
	Independent worker	2	
	Curious	2	
	Go-getter	1	
	Enjoys school	1	
	Resourceful	1	
	Eager	1	
	Involved	1	
	Works without prodding	1	
Not motivated		19	
	Apathetic	2	
	Bored	2	
	Needs prodding to do work	2	
	Works when prodded	1	
	Works only when prodded	1	
	Can't do work without management	1	
	Teacher has to stay on top to get work	1	
	Not interested in work	1	
	Unmotivated	1	
	Not stimulated by school work	1	
	Not motivated	1	
	Dislikes school	1	
	Disinterested in school	1	
	Lazy	1	
	Uninterested in school	1	
9. Intelligent		57	6
	Bright	35	
	Smart	20	
	Intelligent	13	
	Sharp	3	
	Quick	2	
	Brilliant	1	
	Fast thinking	1	
Not intelligent		24	
	Slow	11	
	Not too bright/sharp/smart	7	
	Slow learner	6	
	Dumb	6	
	Dull-witted	2	
	Limited ability	2	
	Appears slow witted	1	
	Has hard time w/ work	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>D-7 Σ</u>
10. Achieving		38	4
	Good student	28	
	Academic leader	2	
	A grade ahead in reading	2	
	Obsessive achiever	1	
	Achiever	1	
	Good schoolwork	1	
	Model student	1	
	Academically successful	1	
	Meaningful contributor to class	1	
	Versatile achiever	1	
	Strong academically	1	
	Model schoolwork	1	
	Does well	1	
	Best student	1	
	Good to average student	1	
Average Achievement		19	
	Average student	6	
	Capable student	4	
	Competent	3	
	Average worker	2	
	Not a high achiever	2	
	Average in academic	1	
	Average (achievement wise)	1	
	Average achiever	1	
	Adequate performance	1	
	Not highly successful	1	
Low Achievement		10	
	Low to mediocre student	4	
	Poor student	2	
	Requires special instruction	1	
	Low achiever	1	
	Academic non-performer	1	
	Slow in academic areas	1	
	Low achievement	1	
11. Good worker		141	10
	Studious	42	
	Conscientious	21	
	Good worker	20	
	Steady worker	16	
	Does work	11	
	Hard working	10	
	Tries hard	8	
	Tries to work	8	
	Keet	4	
	Industrious	3	

VARIABLE NAME	ADJECTIVE USED	RAW FREQUENCY	D-8 Σ
Good Worker	Cont'd		
	Works good	3	
	Diligent	3	
	Busy	2	
	Average worker	2	
	Seems to try	2	
	Efficient	2	
	Diligent worker	2	
	Persistent worker	2	
	Good studier	1	
	Good work habits	1	
	Pretty good worker	1	
	Works a lot	1	
	Worker	1	
	Hard worker	1	
	Seeks help when needed	1	
	Eager to respond	1	
	Enthusiastic worker	1	
	Tries	1	
	Conscientiously does duties	1	
	Works at school work	1	
	Perfectionist	1	
	Compulsive	1	
	Tries too hard	1	
	Applies self	1	
	Work is well done	1	
	Works constantly	1	
Not good worker		42	
	Non-task oriented	7	
	Non-studious	6	
	Never works	5	
	Dodges work	2	
	Poor worker	2	
	Doesn't participate	2	
	Little participation	2	
	Slow worker	2	
	More interested in peer interaction than work	2	
	Doesn't finish work	2	
	Can't stick with work	2	
	Won't do much work	1	
	Lazy work habits	1	
	Doesn't work a whole lot	1	
	Won't work	1	
	Works only part of the time	1	
	Doesn't work much	1	
	Social talk to detriment of schoolwork	1	
	Nonproductive	1	
	Uninvolved in class activities	1	
	Passive resistance in doing schoolwork	1	
	Lackadaisical in work	1	
	Messy	1	
	Not industrious	1	
	Wastes time	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>D- 9</u> <u>1</u>
12. Popular		76	6
	Popular	34	
	Well-liked	23	
	Respected	6	
	Gets along w/ peers	3	
	Successful, skilled in peer interactions	2	
	Good peer interactions	3	
	Enjoys friends	2	
	Gets along well	1	
	Has good many friends	1	
	2-3 close friends	1	
	Plays with peers a lot	1	
	Very social	1	
	Has select group of friends	1	
	Good social skills	1	
	Mixes well	1	
	Well-liked in his gang	1	
	Accepted in peer group	1	
	Close friendships w/ peers	1	
	Close ties w/ few friends	1	
	Interacts well w/ peers	1	
	Average in peer interactions	1	
	Socially mature	1	
Not Popular		25	
	Has few (close) friends	7	
	Poor social skills	3	
	Unpopular	2	
	Not well-liked	2	
	Low status w/ peers	1	
	Poor peer relations	1	
	Sasses peers	1	
	Didn't speak or play w/ peers	1	
	Stuck-up	1	
	Immature in social interactions	1	
	Manipulates friends	1	
	Awkward socially	1	
	Has difficulty maintaining friendships	1	
	Responds inappropriately in peer interactions	1	
	Not well thought of	1	
	Aggravates peers	1	
	Not accepted	1	
	Socially immature	1	
	Snobby	1	
	Inappropriate social behavior	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	RAW <u>FREQUENCY</u>	D-10 <u>Σ</u>
13. Aggressive		27	2
	Aggressive	16	
	Bully	2	
	Occasionally mean to peers	2	
	Aggressive if provoked	2	
	Mean	2	
	Much physical play & aggression	1	
	Aggressive w/ peers	1	
	Aggressively interactive w/ peers	1	
	Mean & cruel	1	
14. Responsible		17	1
	Responsible	6	
	Reliable	5	
	Dependable	4	
	Academically responsible	1	
	Takes responsibility	1	
15. Active		90	5
	Active	44	
	Restless	22	
	Hyperactive	9	
	Energetic	7	
	Bouncy	3	
	Rowdy	2	
	Out of seat	2	
	Wandering	2	
	Drifts	1	
	Kinetic	1	
	Constantly in motion	1	
	Underfoot a lot	1	
	Fidgety	1	
	Frisky	1	
	Excess energy	1	
	Won't settle down	1	
	Lively	1	
	Excitable	1	
	Bubbling	1	
16. Considerate		11	1
	Polite	4	
	Considerate	3	
	Kind	1	
	Likes to help	1	
	Motherly	1	
	Do-gooder	1	
	Generous	1	
	Well-mannered	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>D-II Σ</u>
17. Inattentive		37	2
	Easily distracted	8	
	Distractable	6	
	Inattentive	4	
	Flighty	3	
	Daydreamer	3	
	Day dreamy	2	
	Dreamer	2	
	Dawdler	2	
	Daydreams	1	
	In a fog	1	
	Confused	1	
	Foggy head	1	
	Vacant	1	
	Had difficulty concentrating	1	
	Problem distracts from schoolwork	1	
	Often distracted by peers	1	
	Spends lots of time daydreaming	1	
	Spends lots of time in fantasy-play	1	
	Short attention span	1	
18. Temperamental		16	1
	Sulks	3	
	Frustrated	2	
	Cranky	2	
	Easily angered	2	
	Bad temper	1	
	Easily frustrated	1	
	Feelings hurt by Teacher correction	1	
	Whiney	1	
	Pouty	1	
	Defensive	1	
	On the verge of tears	1	
	Finds excuses for behavior or not doing the work	1	
	Cry baby	1	
	Temperamental	1	
	Has a chip on his shoulder	1	
19. Unobtrusive		50	3
	Unobtrusive	28	
	Not noticeable	5	
	Average	4	
	Relatively unnoticeable	3	
	Not salient	3	
	Overlooked	3	
	Inconspicuous	2	
	Unassuming	2	

<u>VARIABLE NAME</u>		<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>D-12 Σ</u>
Unobtrusive	Cont'd			
		Nothing out of the ordinary	1	
		Very nondescript	1	
		Obscure	1	
		Typical	1	
		Low-profile	1	
		Dull	1	
		Doesn't stand out	1	
		Easily overlooked	1	
20. Athletic			15	1
		Athletic	12	
		Tomboy	2	
		Tomboyish	2	
21. Humorous			11	1
		Funny	3	
		Silly	3	
		Good humor	2	
		Clownish	2	
		Good sense of humor	2	
22. Other negative			51	3
		Spoiled	8	
		Busybody	8	
		Tattle-tale	7	
		Clumsy	4	
		Catty	4	
		Self-centered	3	
		Obtrusive	2	
		Ruthlessly selfish	2	
		Awkward	2	
		Bitchy	2	
		Guilty-looking	1	
		Particular	1	
		Sicky-sweet	1	
		Sissy looking at times	1	
		Erratic	1	
		Condescending	1	
		Glassy-eyed	1	
		Looks like a "loose woman"	1	
		All-American boy (negative)	1	
		Snotty little twirp	1	
		Finicky	1	
		Full of herself (negative)	1	
		Opportunist	1	
		Sluggish	1	
		Effeminate (male)	1	
		Frivolous	1	
		Sly	1	
		Inconsiderate of others	1	
		Unresponsive	1	
		Shifty-eyed	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>D-13 Σ</u>
23. Other positive		29	2
	Capable	3	
	Alert in class	3	
	Well adjusted	2	
	Easy going	2	
	Gentle	2	
	Average intelligence	2	
	Sweet	2	
	Peer tutor	1	
	Adventurous	1	
	Well-rounded	1	
	Extremely verbal	1	
	Iconoclast	1	
	Dignified	1	
	Genuine	1	
	Good kid	1	
	All-American boy	1	
	Cherub-like	1	
	Alert	1	
	Bright-eyed	1	
	Upright	1	
24. Social Leader		26	3
	Leader	12	
	Social-peer leader	8	
	Class leader	3	
	Peer leader (nonacademic)	2	
	Looked up to	2	
	Unself-conscious leader	1	
	Student council representative	1	
Not social leader		21	
	Passive	11	
	Social follower	4	
	Follower	3	
	Submissive	2	
	Unassertive	1	
	Easily led	1	
	Not initiator but responds	1	
	Easily manipulated	1	
25. Likeable		47	3
	Likeable	31	
	Nice	6	
	Loveable	4	
	Very appealing	3	
	Pleasant	2	
	Delightful	1	
	Good disposition	1	
	Congenial	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>
Not likeable		13
	Annoying	4
	Obnoxious	2
	Pissy	1
	Bothersome	1
	Irritating	1
	Grating	1
	Unpleasant	1
	Nuisance to others	1
	Ugly Disposition	1
26. Attractive		38
	Cute	15
	Attractive	9
	Pretty	8
	Handsome	3
	Good-looking	2
	Well-dressed	2
	Elegant	1
	Golden-haired honey	1
Not attractive		20
	Unattractive	6
	Slovenly	2
	Unkempt	2
	Poorly groomed	2
	Anemic looking	2
	Bad personal appearance	1
	Plain	1
	Ragamuffin	1
	Frowzy looking	1
	Dumpy	1
	Ugly	1
27. Not teacher dependent		28
	Independent	18
	Self-reliant	9
	Makes few demands on teacher	1
	Doesn't require much teacher help	1
	Avoids teacher contact	1
	Independent thinker	1
Teacher Dependent		50
	Approval-seeker	15
	Attention-seeker	9
	Teacher dependent	8
	Brown noser	7
	Dependent	4
	Needs (physical) affection	3
	Demanding	2
	Eager to impress adults	2

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>1</u>
Teacher dependent Cont'd	Follows teacher	1	
	Frequently asks for help	1	
	Pestery	1	
	Teacher dependent tattletale	1	
	Wants to be teacher's pet	1	
	Constantly seeks teacher inter- action	1	
	Works for attention	1	
	Frequently gets reassurance from teacher	1	
37. Good Teacher Relations		10	2
	Well liked by teacher	4	
	Teacher's pet	3	
	Chosen for many class jobs	1	
	Called on to help teacher	1	
	Bragged on by teacher	1	
	Teacher favoritism	1	
	Unusually ability to interact posi- tively w/ teacher	1	
Poor Teacher Relations		24	
	Picked on	5	
	Doesn't get much teacher attention	4	
	Avoids teacher contact	3	
	Not many teacher contacts	3	
	Harassed by teacher	2	
	Sometimes falsely accused	1	
	Gets criticized a lot	1	
	Not liked by teacher	1	
	Teacher didn't communicate w/ her much	1	
	Doesn't interact w/ teacher	1	
	Pain of teacher	1	
	Not well received (by teacher)	1	
	Has to have best work in exchanges w/ teacher	1	
38. Female Stereotype		13	1
	Frisky	4	
	Delicate	2	
	Prim	2	
	Funny (prim & proper)	1	
	Demure	1	
	Ladylike	1	
	Feminine	1	
	Boy crazy	1	
	Flirt	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>Z</u>
39. Bossy		22	1
	bossy (bossing)	15	
	Pussy	3	
	Takes role of teacher (to tell others what to do)	2	
	Runs everything	1	
	Demanding	1	
	Likes to be in charge	1	
	Dominant, strong	1	
	Overbearing	1	

OBSERVER ADJECTIVE DESCRIPTIONS-UNCODABLE ADJECTIVES

Apparently the principal formed a contract with him to eliminate his poor behavior

had a broken jaw w/ mouth wired shut for a week

beats when praised

From poor family

High absentee rate--bad bike wreck

Toughly

Absent a lot

Speech different

Always caused trouble when there was a substitute

Non-aggressive (f=2)

Teasing (f=2)

Appears dumb, but isn't really

Tiny (f=3)

Noture in appearance

Chunky (f=2)

Hipple

Squint-eyed

Poor financially

Very country red-neck

Likes to read aloud

Low-key person

Future class queen

Country bumpkin

Very noticeable because of big size and volume

Different

Gorky

Impish

Tries to please, but doesn't

Reads a lot

Prin (male)

Knows how to play the game

Likes to giggle

Animal lover

Sensitive (f=4)

Enigmatic

Future Queenleader type

Red-neck queen

Nature body

Sensitivity hidden behind outward show of strength

Contemplative

Tries to get favors, arrange things her way

All boy

Sickly, misses school

Unaggressive (f=2)

Thoughtful (meaning "fonders" or "contemplates") (f=2)

He's a 50-50: 1/2 time good and works, 1/2 time he's hell (f=2)

TEACHER'S ADJECTIVE DESCRIPTIONS

VARIABLE COMPOSITION

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>$\frac{1}{2}$</u>
		27	4
1. Sociable	Friendly	10	
	Sociable	7	
	Outgoing	5	
	Warm	2	
	Outspoken	2	
	Easy to talk to	1	
	Extrovert	1	
	Gregarious	1	
	Likes to interact	1	
		43	
Not sociable	Shy	20	
	Withdrawn	7	
	Reserved	7	
	Loner	4	
	Timid	3	
	No mingling w/ others	2	
	Needs time alone	1	
	Passive, watches, doesn't play	1	
	Freezes in public response	1	
	opportunities	1	
	Unfriendly	1	
		25	2
2. Mature	Mature	25	
	Very mature	2	
		15	
Not mature	Immature	14	
	Babyish	1	
		31	3
3. Happy	Happy	21	
	Cheerful	3	
	Affectionate	3	
	Sunny	1	
	Mischievous	1	
	Happy-go-lucky	1	
	Jovial	1	
	Lighthearted	1	
	Big smile	1	
	Likes a good time	1	

VARIABLE NAME

ADJECTIVE USED

RAW
FREQUENCY

$\frac{r}{2}$

Not happy

17

Unhappy
Moody
Too serious
Sulky
Apathetic
Downcast
Disgruntled
Not at rest inside
Doesn't smile much

6
4
3
1
1
1
1
1
1

4. Quiet

69

5

Quiet
Speaks softly

66
3

Not quiet

25

Talker
Loud
Boisterous
Loudmouth

16
5
2
1

5. Helpful

59

5

Cooperative
Helpful to Teacher
Eager to please

25
25
10

Not helpful

16

Behaviorally uncooperative
Defiant
Doesn't follow directions
Insolent
Disobedient
Sullen
Talks back
Stubborn
Negative approach to so many things
Not anxious to please anyone but himself
Aggression if asked to do something he doesn't want to

3
2
3
1
1
1
1
1
1
1
1

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>F</u>
6. Well Behaved		14	3
	Well behaved	4	
	Sits & does what he is supposed to	2	
	Obedient	1	
	Good behavior	1	
	No discipline problems	1	
	Even tempered	1	
	Mild tempered	1	
	Self disciplined	1	
	Stays out of trouble	1	
	Respects adult authority	1	
	Trouble	1	
Not well behaved (mild)		20	
	Mischievous	4	
	Rowdy	2	
	Apologizes, then does it again	1	
	Teases girls	1	
	Show-off	1	
	Requires management	1	
	Can't keep hands to self	1	
	Gets into trouble	1	
	Needs to settle down	1	
	Misbehaves & wanders around	1	
	Poor behavior	1	
	Gets into devilment	1	
	Some trouble with impulse control	1	
	Behavior problems which are im- proving	1	
	Needs a firm hand	1	
	Improved ring-tailed rooster	1	
	Cuts up	1	
Not well behaved (severe)		15	
	Trouble-maker	4	
	Disruptive behavior	4	
	Disturbs class	4	
	Beliguerent	1	
	Real discipline problem	1	
	Behavior Problem	1	
7. Confident		13	3
	Confident	5	
	Feels good about himself	3	
	Poised	2	
	Smiles confidently	1	
	Too confident	1	
	Likes to get up in front of a group	1	
	Not anxious about anything	1	

VARIABLE NAMEADJECTIVE USEDRAW
FREQUENCYΣ

Not confident

33

Lacks confidence 7
 Insecure 6
 Nervous in new situations 3
 Anxious 3
 Unsure of self 3
 Nervous 2
 Self-conscious 2
 Nervous when Teacher is angry 1
 Insecure re work 1
 Poor self-concept 1
 Low self-esteem 1
 Uncertain 1
 Unsure of abilities 1
 Only speaks when certain correct 1
 Will be absent to avoid making
 class presentation 1
 Gets tension stomach aches 1
 Inferiority complex 1
 Mousey 1
 Apologizes for her presence 1

8. Motivated

55

5

Displays enthusiasm re schoolwork 7
 Interested in school 6
 Curious 6
 Anxious to achieve 5
 Wants to do well 4
 Enthusiasm 3
 Easily motivated 3
 Wants to achieve 3
 Competitive 3
 Does more than required 3
 Works for the fun of it 2
 Ambitious 2
 Eager 2
 Enjoys school 2
 Inquisitive 1
 Exuberant re work 1
 Thinks he ought to be tops 1
 Resourceful 1
 Takes pride in work 1
 Drives self 1
 Loves school 1
 Wants to be challenged 1
 Learns for the joy of it 1
 Self motivating 1
 Takes initiative 1

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>Σ</u>
Not motivated		35	
	Needs (constant) prodding	9	
	Lazy	7	
	Bored, no motivation	2	
	Needs encouragement	2	
	Needs motivation	2	
	Responds to praise to do better	2	
	Not easily motivated	2	
	Won't work unless interested	1	
	Complacent	1	
	Works only when placed by teacher	1	
	Parent & teacher cooperate to get work in	1	
	Not interested in school	1	
	Apathetic re work	1	
	Works under threat	1	
	Hard to channel	1	
	Lackadaisical	1	
	Gives up easily	1	
	Doesn't want to do school work	1	
9. Intelligent		68	
	Intelligent	41	
	Smart	10	
	Bright	10	
	Brightest	2	
	High IQ	1	
	Sharp thinker	1	
	Good reasoning power	1	
	Doesn't have to put out to learn	1	
	Quick learner	1	
	Clever	1	
Not intelligent		32	
	Slow learner	19	
	Has peaked	2	
	Slow	2	
	Dumb	2	
	Has difficulty learning	2	
	Slow in work	1	
	MBI	1	
	Not very capable	1	
	Low IQ	1	
	Learning disability	1	
	Not real smart	1	
	Not as intelligent as others	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>f</u>
10. Achieving		51	6
	Good student	30	
	High achiever	5	
	Reads at above grade level	3	
	Academic leader	2	
	Very good student	1	
	Does good work	1	
	Very good in math	1	
	Best student	1	
	Great scholastic improvements	1	
	Excellent student	1	
	Excellent in Science	1	
	Especially good reader	1	
	Ideal student	1	
	Aggressively academic	1	
	Perfect student	1	
	Good in class	1	
	Double promoted	1	
	Excels academically	1	
Average Achieving		19	
	Average student	12	
	Average work	1	
	Average achiever	1	
	Average worker	1	
	Average grades	1	
	Fairly good student	1	
	Achieves	1	
	Capable	1	
Low Achieving		29	
	Below grade level	5	
	Retained this year	4	
	Behind in reading	3	
	Behind academically	3	
	Low achiever	2	
	Low in reading	2	
	Slow in Math	2	
	Low student	2	
	Slow achiever	1	
	Slow reader	1	
	Low academically	1	
	Not a good student	1	
	Not a high achiever	1	
	Poor in school	1	

VARIABLE NAME

ADJECTIVE USED

D-25

11. Good Worker

RAW
FREQUENCY

$\frac{9}{2}$

Hard worker	94	9
Tries hard	31	
Good worker	18	
Does work	14	
Studious	6	
Conscientious	5	
Active participant	4	
Persistent	3	
Perfectionist	3	
Neat/careful worker	3	
Well organized	3	
Tries	2	
Will ask for help if needed	2	
Won't give up easily	1	
One of my best workers	1	
Gets work done despite . . .	1	
Industrious	1	
Works with great care	1	
Quick worker	1	
Not good worker	1	

Messy/sloppy work	53
Socializes instead of working	10
Slow in work	6
Disorganized	6
Doesn't finish work	5
Wastes time	5
Poor work habits	4
Poor worker	3
Careless re work	2
Slow to turn in work	2
Procrastinator	2
Wants you to think he's busier than he really is	2
Loses things	2
Lacks self-discipline	2
Haphazard in work	1
Doesn't participate actively	1
Does work as homework instead of school work	1
Focuses on only part of assignment	1
Just gets by on work	1
Doesn't always perform	1
Careless	1
No effort	1

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>Σ</u>
12. Popular		39	3
	Gets along well with peers	14	
	Well liked	14	
	Popular	5	
	Good peer relations	3	
	Lots of friends	1	
	Intense friendships	1	
	Works well with other children	1	
Not popular		18	
	Has poor peer relations	5	
	Isolated from peers	1	
	Has only one friend	1	
	Doesn't play with peers	1	
	Disliked by peers & teacher	1	
	A loner, but not by preference	1	
	Has problems getting along	1	
	Has difficulty with peers	1	
	Doesn't fit in	1	
	Kids pick on her a lot	1	
13. Aggressive		20	1
	Aggressive	11	
	Bully	4	
	Starts fights	2	
	Rough play	2	
	Mean	1	
	Sadistic	1	
	Pusher, shover	1	
	Picks on others	1	
14. Responsible		19	1
	Responsible	9	
	Dependable	9	
	Trustworthy	1	
	Reliable	1	
15. Active		38	2
	Hyperactive	12	
	Active	8	
	Usually out of place	6	
	Feisty	5	
	Fidgety	3	
	Energetic	2	
	Rambunctious	2	
	Restless	2	
	Frisky	1	
	Mind in an excited state	1	
	Live wire	1	
	Full of adrenalin	1	
	Can't sit still	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>%</u>
16. Considerate		31	2
	Kind	10	
	Polite	6	
	Courteous	5	
	Sensitive of others' feelings	4	
	Thoughtful	3	
	Motherly (takes care of things)	2	
	Good manners	2	
	Considerate	2	
	Helps peers	2	
	Loving	1	
	Generous	1	
	Patient	1	
	Compliments teacher and others	1	
17. Inattentive		18	1
	Short attention span	4	
	In own world, resents intrusion	3	
	Daydreams	3	
	Easily distracted	2	
	Lack of concentration	2	
	Disoriented	1	
	Out to lunch	1	
	Doesn't listen well	1	
	Easily confused	1	
	Not attentive	1	
	Detached	1	
18. Tempermental		31	2
	Whiney	5	
	Explosive (temper wise)	5	
	Can't accept own mistakes	5	
	Cries easily from frustration	5	
	Poor frustration tolerance	2	
	Pouts	2	
	Resents correction	2	
	Overreacts	1	
	Hurt feelings	1	
	Temper tantrums	1	
	Easily hurt feelings	1	
	Sensitive to criticism	1	
	Easily discouraged	1	
	Gets red & puffed up when angry	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>f</u>
19. Unobtrusive		15	1
	Non-salient	4	
	Generally average	2	
	Nothing to set him apart, not noticeable	2	
	Unobstrusive	2	
	Blah--not outstanding	1	
	Dubious	1	
	Ordinary	1	
	Typical	1	
	Not unusual	1	
20. Athletic		15	1
	Athletic	8	
	Tomboy	4	
	Sports-nut	2	
	Rough play, boyish, masculine	1	
	Typical male-big husky athletic	1	
21. Humorous		13	1
	Good sense of humor	10	
	Funny	2	
	Clever and humourous at times	1	
	"We tease each other constantly and play fun-type tricks"	1	
22. Other negative		26	2
	Nosy	5	
	Dingaling	3	
	Scatterbrain	3	
	Spoiled	2	
	Unswayed by teacher anger	1	
	Mostly messed up, headed for a painful adolescence	1	
	Tactless	1	
	Conceited	1	
	Sarcastic	1	
	Feminine male	1	
	Meddlesome	1	
	Threatened principal	1	
	Doesn't show respect	1	
	Has deteriorated	1	
	Complainer	1	
	Lacks sense of humor	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>%</u>
23. Other positive		72	4
	Improved recently	13	
	Well rounded, good kid	5	
	The kind you pray for	5	
	Knows the difference between right and wrong	4	
	Capable	3	
	Average ability	2	
	Normal intelligence	2	
	Attentive	2	
	Very honest	2	
	Perceptive	2	
	Neat	2	
	Aggressiveness has changed to verbal solutions	2	
	All boy	2	
	Honest to a fault	1	
	I expect her to do great things	1	
	Has common sense	1	
	Has a good heart	1	
	Wise	1	
	Fluent in Spanish and English	1	
	Verbally skilled	1	
	Has become more salient	1	
	Good handwriting	1	
	Modest	1	
	Has won school honors	1	
	Well informed	1	
	Takes things in stride	1	
	Likes to read	1	
	Helps peers	1	
	Sense of fairness	1	
	Integrity	1	
	Has ability	1	
	Knows how	1	
	Alert	1	
	Pleased about "girlness," but not extreme	1	
24. Social Leader		18	1
	Leader	17	
	Outspoken--a leader	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>Σ</u>
25. Likeable		55	3
	Likeable	15	
	Good personality	9	
	Pleasant	7	
	Nice	6	
	Good natured	2	
	Good hearted	2	
	Loveable	2	
	I love him	1	
	A dear	1	
	Nice person	1	
	I like him	1	
	Mr. personality	1	
	Good kid	1	
	Enjoyable	1	
	Want to cuddle him	1	
	Adorable	1	
	Very precious child	1	
	Fun	1	
	Brings out positive response in people	1	
	Charmer	1	
26. Attractive		41	3
	Attractive	13	
	Cute	10	
	Pretty	4	
	Strange looking, but attractive	3	
	Beautiful	3	
	Good looking	3	
	Well groomed	2	
	Picture of health	1	
	Handsome	3	
27. Dependent		24	1
	Attention seeker	5	
	Wants attention	5	
	Overly eager to please teacher	2	
	Seeks teacher approval	2	
	Very dependent	2	
	Wants teacher help when could help self	1	
	Pesty to teacher	1	
	Too much with teacher	1	
	Thrives on attention	1	
	Likes physical affection	1	
	Needs constant attention	1	
	Needs attention, praise	1	
	Peer dependent	4	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>f</u>
28. Good home		28	7
	Good home	5	
	Nice family	5	
	Cooperative parents	4	
	Parents active in PTA	3	
	Good home environment	2	
	Mother is a teacher	2	
	Intelligent parents	2	
	Very bright mother	1	
	Parents provide much stimulation	1	
	Lovely parents	1	
	Family oriented home	1	
	Stable family	1	
	Father is a principal	1	
	Strict but loving parents	1	
Not good home		86	
	Divorce	16	
	"Home problems"	11	
	Step-father	8	
	Separated parents	6	
	Over critical parents	5	
	Sibling rivalry	5	
	Poor (financially)	4	
	Strict parents	3	
	No English spoken in the home	3	
	Father died	2	
	Ill parent	2	
	No father	2	
	Absent father	2	
	Uncooperative parents	2	
	Overindulged	2	
	Mother doesn't like him	2	
	Family full of slow kids	1	
	Father ran off	1	
	Brother big-mouthed, bossy, effemi- nate	1	
	Apathetic family	1	
	Ignorant parents	1	
	Chauvinistic father	1	
	Alcoholic father	1	
	Working parents	1	
	Parents take in foster children	1	
	Mother is an Ex-con	1	
	Father is a murderer	1	
29. Creative		31	2
	Creative	17	
	Artistic	8	
	Imaginative	4	
	Talented	1	
	Mechanically inclined	1	
	Loves to work w/ hands & makes things	1	

<u>VARIABLE NAME</u>	<u>ADJECTIVE USED</u>	<u>RAW FREQUENCY</u>	<u>f</u>
30. Medical Problems		30	2
	Speech Problem	8	
	Psychiatric case	4	
	On medication	3	
	Hearing problems	3	
	Damaged teeth-gums	2	
	Rashes	2	
	Crosseyed	1	
	Wears strong glasses	1	
	Has a glass eye	1	
	Surgery last year	1	
	Diabetic	1	
	Has fingers missing	1	
	Asthma	1	
31. Often Absent		18	1
32. Sweet		21	1
33. Underachiever		16	1
	Underachiever	8	
	Tends to be more capable than work indicates	3	
	Has ability but is behind	2	
	Academic could be better with more effort	1	
	High IQ, but low performance	1	
	In high group but lazy--poor work	1	
34. Cries easily		13	1
	Whiney	5	
	Cries easily from frustration	5	
	Pouts	2	
	Hurt feelings	2	
35. Untrustworthy		13	1
	Liar	3	
	Cheater	2	
	Steals	2	
	Dishonest	2	
	Curses	2	
	Tells tall tales	1	
	Has habits & words beyond his age	1	
	Devious	1	
	Not original in his work	1	
	Fails to accept blame when known guilty	1	

VARIABLE NAMEADJECTIVE USEDRAW
FREQUENCY1

36. Broken Home

Divorce

31

2

Has Step-father

16

8

Separated

6

Father ran off

1

ADJECTIVE DESCRIPTIONS--TEACHERS--UNCODABLE ADJECTIVES

Puzzling, often sensitive to others needs, sometimes not

Squeaky voice

Youngest member of Audubon Society--knows all about birds

Wants to be a Teacher

Black, but not bused--family in neighborhood. Dances well--rhythm!

Marshmallow--big & fat--but beautiful skin & eyes

Mother ill, but no effects noted

We're not reaching her

Cousin to ____--close

Tall

Two sisters, no brother, bright mother

Wrong reading group by mistake, cried and was changed

Works closely with step-father

Big family

Only child (f=3)

Good in math, slow in reading

Foreign parents

Little old man

Youngest of four

Black, bused (f=2)

Liberal parents

Lebanese, youngest child

Biggest pack-rat around

Athletic, but accident prone

Second biggest pack-rat

Cowboy (f=2)

Uses restroom every 30 minutes

Wants to grow up fast

Teacher and Mother concerned

Teacher concerned

Spanish nature--(quiet)

German background

Going through the change

Interested in Mother

Siblings were behavior problems

Redneck

Redneck family living next to hippie family, but get along

Snubs old friends

Untidy desk

Older than peers

Free spirit

Lives with grandparents

Only girl & baby of family

Music fan and kids make fun of this

Enjoys new step-dad

Sleeps in clothes occasionally, family getting help

Evil Knievel or Bat man

Has gone through many changes

"a case"; Mother considers her child "perfect"

Sister of _____

Like ____; good reader, but low on other things--in a dreamworld about school work

1 Year older than others, parent's didn't get birth certificate so she could go

Brother dependent

Concerned with keeping up w/ possessions

Eats paste

Retain in 1st grade

Referred for testing

Sweet like a deer (named Bambi)

Enthusiastic when something new she understands

Wide-eyed

Fools you--learns when you don't expect it

Conscious of her appearance

Is two different children depending whether on or off medication

Has older sister who does things with him

Family from Sweden

A lot going on inside

Parents are Pentacostal ministers and family tours and sings

Chess champion

Intense

Harder to read than younger brother

Intense, enjoys music

Stole money, but taken care of

_____ 's brother (f=3)

On the patro; Mother remarried but kids have same last name

Anglicized Mexican American

APPENDIX E

Group Means for Adjective Description Variables

Table E-1. Group Means for Adjective Description Variables for Students Perceived Consistently on the Calm, Careful and Mature Scales

Adjective Description Variable	Calm			Careful			Mature		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
The following bipolar variables were scored for both teachers and coders. Numbers in parentheses indicate scores for extremes.									
1. Sociable									
A. Teachers	1.80 5	1.39 23	1.31 16	1.33 6	1.43 21	1.31 13	1.17 6	1.46 24	1.40 15
B. Coders	1.80 15	1.48 52	1.35 37	1.37 18	1.47 53	1.50 34	1.65 23	1.51 19	1.43 35
2. Mature									
A. Teachers	Insufficient Data			1.14 7	1.44 9	1.94 16	1.00 9	1.40 5	2.00 17
B. Coders	1.00 5	1.36 14	2.00 5	1.20 5	1.20 10	1.63 8	1.17 6	1.27 11	2.00 9
3. Happy									
A. Teachers	1.78 9	1.80 15	1.17 6	1.50 8	1.70 10	1.43 7	1.50 8	1.80 20	1.43 7
B. Coders	1.80 10	1.48 23	1.60 15	1.78 9	1.50 18	1.65 17	1.75 12	1.58 24	1.65 17

Adjective Description Variable

4. Quiet

A. Teachers

Calm		Careful		Mature	
Low	High	Low	High	Low	High
1.22	1.74	1.40	1.72	1.53	1.73
9	31	10	32	15	30

B. Coders

Calm		Careful		Mature	
Low	High	Low	High	Low	High
1.57	1.84	1.72	1.84	1.75	1.80
14	44	18	51	24	50

5. Helpful

A. Teachers

Calm		Careful		Mature	
Low	High	Low	High	Low	High
1.36	1.89	1.54	1.67	1.54	1.88
11	19	13	24	13	25

B. Coders

Calm		Careful		Mature	
Low	High	Low	High	Low	High
1.33	1.70	1.42	1.68	1.50	1.61
9	23	12	22	12	18

6. Well behaved

A. Teachers

Calm		Careful		Mature	
Low	High	Low	High	Low	High
1.74	2.33	1.64	1.67	1.69	1.81
19	9	22	24	26	31

B. Coders

Calm		Careful		Mature	
Low	High	Low	High	Low	High
1.61	1.69	1.64	1.67	1.69	1.81
23	32	22	24	26	31

7. Confident

A. Teachers

Calm		Careful		Mature	
Low	High	Low	High	Low	High
1.33	1.07	1.17	1.18	1.43	1.44
6	15	6	17	7	16

B. Coders

Calm		Careful		Mature	
Low	High	Low	High	Low	High
1.60	1.50	1.57	1.33	1.43	1.44
5	22	7	12	7	16

Adjective Description Variable

8. Motivated

A. Teachers

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.24	1.62	1.84	1.33	1.64	2.00	1.19	1.65	2.00
17	26	19	18	22	22	16	26	22

B. Coders

Insufficient Data

Insufficient Data

9. Intelligent

A. Teachers

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.44	1.54	1.96	1.21	1.60	2.00	1.15	1.83	2.00
18	24	23	19	20	32	20	18	24

B. Coders

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.46	1.47	1.86	1.33	1.59	1.95	1.27	1.74	1.85
13	36	22	15	29	20	22	31	20

10. Achieving

A. Teachers

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.64	1.82	2.67	1.11	1.83	2.86	1.39	2.19	2.81
11	33	24	9	30	21	18	27	27

B. Coders

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.44	2.44	2.55	1.57	2.35	2.72	1.67	2.50	2.70
9	16	22	7	17	25	9	18	23

11. Good Worker

A. Teachers

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.29	1.69	1.86	1.35	1.61	1.94	1.33	1.70	1.86
21	49	28	23	44	33	21	54	28

B. Coders

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.61	1.71	1.95	1.48	1.71	1.95	1.65	1.78	1.91
23	49	43	24	56	43	26	59	45

12. Popular

A. Teachers

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.25	1.80	1.83	1.50	1.70	1.70	1.50	1.75	1.83
8	10	12	8	10	20	8	20	12

B. Coders

Calm			Careful			Mature		
Low	Medium	High	Low	Medium	High	Low	Medium	High
1.42	1.82	1.78	1.69	1.77	1.85	1.60	1.76	1.80
12	28	23	13	30	27	15	41	20

The following unipolar adjective variables were scored for both coders and teachers. When the adjective was given, a score of "1" was assigned. When it was not given, a "0" was assigned as the student's score.

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Adjective Description Variable	N's =	Calm			Careful			Mature		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
		56	112	69	58	110	77	62	123	72
18. <u>Temperamental</u>										
A. Teachers		.18	.09	.03 **	.14	.08	.06	.13	.05	.03 *
B. Coders		.11	.05	.00 *	.09	.05	.00 *	.08	.03	.01
19. <u>Unobtrusive</u>										
A. Teachers		.04	.04	.06	.00	.06	.04	.02	.05	.07
B. Coders		.09	.13	.19	.09	.19	.19	.15	.16	.14
20. <u>Athletic</u>										
A. Teachers		.02	.06	.03	.03	.04	.08	.00	.06	.07
B. Coders		.07	.04	.01	.09	.03	.04	.03	.04	.06
21. <u>Humorous</u>										
A. Teachers		.04	.04	.04	.03	.02	.04	.03	.02	.03
B. Coders		.04	.05	.01	.03	.04	.01	.03	.03	.00
22. <u>Other Negative</u>										
A. Teachers		.04	.09	.03	.07	.10	.01	.06	.08	.03
B. Coders		.14	.13	.06	.09	.10	.18	.05	.18	.07 *
23. <u>Other Positive</u>										
A. Teachers		.18	.18	.23	.21	.20	.22	.13	.19	.24
B. Coders		.04	.07	.16 *	.02	.09	.13 *	.06	.06	.18 *

Adjective Description Variable	Calm			p ²	Careful			Mature			
	Low	Medium	High		Low	Medium	High	Low	Medium	High	
24. <u>Social Leader</u>											
A. Teachers ("1" if social leader mentioned; "0" otherwise).	.07 56	.04 112	.14 69		.07 58	.05 110	.18 77	.03 62	.08 123	.17 72	
B. Coders ("2" for social leader, "1" for social follower).	1.40 5	1.72 18	1.67 9		1.60 5	1.43 14	1.57 14	Insufficient Data			
25. <u>Likeable</u>											
A. Teachers ("1" if likeable mentioned; "0" otherwise)	.25 56	.25 112	.26 69		.31 58	.20 110	.35 77	.26 62	.29 123	.31 72	
B. Coders ("2" for likeable, "1" for obnoxious).	1.82 11	1.69 16	2.00 12		1.78 9	1.70 20	1.93 14	1.90 10	1.67 18	2.00 14	
26. <u>Attractive</u>											
A. Teachers ("1" if attractive mentioned; "0" otherwise).	.36 56	.14 112	.17 69		.21 58	.27 110	.29 77	.26 62	.24 123	.28 72	
B. Coders ("2" for attractive, "1" for unattractive).	1.67 9	1.72 18	1.55 11		1.60 10	1.50 12	1.77 13	1.50 12	1.75 16	1.80 10	
27. <u>Dependent</u>											
A. Teachers	.13 56	.07 112	1.00 69	**	.14 58	.06 110	.04 77	.10 62	.10 123	.00 72	*
B. Coders	1.25 16	1.48 23	1.30 10		1.32 22	1.33 21	1.40 10	1.46 13	1.35 31	1.17 6	6

The following adjective variables were scored as bipolar for coders but as unipolar for teachers. Scoring is noted.

Adjective Description Variable

The following variables were scored only for teachers.

Bipolar Adjectives, Teachers Only

	Calm			Careful			Mature		
	Low	Medium	High	Low	Medium	High	Low	Medium	High

Unipolar Adjectives, Teachers Only ("1" if mentioned, "0" otherwise.)

	Calm			Careful			Mature		
	Low	Medium	High	Low	Medium	High	Low	Medium	High

The following variables were scored only for coders.

Bipolar Adjectives, Coders Only

37. Good Teacher Relations

Adjective Description Variable	Calm			Careful			Mature		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
Unipolar Adjectives, Coders Only ("1" if mentioned, "0" otherwise.)									
38. <u>Female Stereotype</u>	.00 56	.05 112	.01 69	.02 58	.05 110	.06 77	.03 62	.05 123	.03 72
39. <u>Bossy</u>	.05 56	.07 112	.06 69	.03 58	.08 110	.08 77	.05 62	.08 123	.04 72
This variable was computed for both teachers and coders.									
40. <u>% Positive</u>									
A. Teachers	34.41 56	59.01 112	82.41 69	31.97 58	58.66 110	81.31 77	33.08 62	63.07 123	82.94 72
B. Coders	42.73 56	51.13 112	68.77 69	41.93 58	51.45 110	66.57 77	43.73 62	53.84 123	70.85 72

*** $p \leq .001$
 ** $p \leq .01$
 * $p \leq .05$

Table E-2. Group Means for Adjective Description Variables for Students Perceived Consistently on the Achieving, Creative, and Persistent Scales

Adjective Description Variable	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
The following bipolar variables were scored for both teachers and coders. Numbers in parentheses indicate scores for extremes.									
1. <u>Sociable</u>									
A. Teachers	1.29 14	1.59 22	1.41 17	1.11 9	1.44 18	1.43 7	1.14 7	1.57 23	1.36 14
B. Coders	1.45 29	1.35 51	1.55 40	1.32 19	1.45 44	1.60 20	1.50 18	1.55 51	1.44 36
2. <u>Mature</u>									
A. Teachers	1.25 8	1.30 10	1.94 18	Insufficient Data			1.17 6	1.44 9	1.95 19
B. Coders	1.17 6	1.50 10	1.75 8	Insufficient Data			Insufficient Data		
3. <u>Happy</u>									
A. Teachers	1.50 12	1.75 16	1.58 12	1.80 5	1.83 12	1.67 6	1.56 9	1.74 19	1.57 7
B. Coders	1.70 10	1.56 27	1.70 20	1.50 6	1.75 20	1.64 14	1.75 8	1.48 27	1.65 17

The following bipolar variables were scored for both teachers and coders. Numbers in parentheses indicate scores for extremes.

Adjective Description Variable	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
<u>4. Quiet</u>									
A. Teachers	1.80 12	1.84 16	1.78 12	1.89 9	1.81 32	1.69 13	1.44 9	1.69 32	1.79 19
B. Coders	1.86 28	1.84 58	1.77 35	1.94 18	1.86 43	1.80 20	1.79 19	1.78 49	1.80 35
<u>5. Helpful</u>									
A. Teachers	1.69 16	1.83 30	1.94 18	2.00 6	1.95 22	1.75 8	1.36 11	1.88 25	2.00 15
B. Coders	1.58 12	1.63 19	1.70 10	1.75 8	1.68 16	1.57 7	1.36 11	1.66 19	1.80 10
<u>6. Well behaved</u>									
A. Teachers	1.81 16	2.08 12	2.00 7	2.33 6	2.00 10	2.40 5	Insufficient Data		
B. Coders	1.71 28	1.74 27	2.09 11	1.53 15	1.79 19	1.88 8	1.50 20	1.76 21	2.45 11
<u>7. Confident</u>									
A. Teachers	1.20 10	1.27 15	1.60 10	Insufficient Data			1.25 8	1.27 11	1.43 7
B. Coders	1.42 7	1.53 19	1.60 10	Insufficient Data			Insufficient Data		

Adjective Description Variable

8. Motivated

A. Teachers

Achieving			Creative			Persistent				
Low	Medium	High	Low	Medium	High	Low	Medium	High		
1.39 23	1.63 30	1.87 23	**	1.44 9	1.69 26	1.73 15	1.16 19	1.56 25	2.00 24	***

B. Coders

Low	Medium	High	Insufficient Data			Low	Medium	High
1.40 10	1.50 16	1.91 11	*			1.14 7	1.69 16	1.86 7

9. Intelligent

A. Teachers

1.00	1.73	2.00	***	1.00	1.85	1.95	***
24	15	44		16	13	20	

B. Coders

Low	Medium	High	Insufficient Data			Low	Medium	High
1.17 23	1.78 32	1.93 27	***	1.00 14	1.75 28	1.80 15	1.27 15	1.64 28

10. Achieving

A. Teachers

1.00	2.24	2.93	**	1.33	2.24	2.80
17	33	27		15	25	15

B. Coders

			Insufficient Data		
1.80	2.33	2.65	**		
10	21	26			

1. Good Worker

A. Teachers

1.60	1.59	1.81
25	51	31

B. Coders

1.64 33	1.78 59	1.93 55	**
------------	------------	------------	----

2. Popular

A. Teachers

Low	Medium	High	Insufficient Data			Low	Medium	High
1.71 7	1.72 18	1.67 18				1.57 7	1.60 20	1.76 17

B. Coders

1.59	1.74	1.81	1.60	1.73	2.00
17	34	27	5	30	16

Adjective Description Variable

the following unipolar adjective variables were scored for both coders and teachers. When the adjective was given, a score of "1" was assigned. When it was not given, a "0" was assigned as the student's score.

	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
N's for #13 through #23									
72	124	88	38	101	54	78	54	112	
3. Aggressive									
A. Teachers	.01	.06	.05	.03	.07	.04	.06	.06	.01
B. Coders	.11	.06	.07	.05	.12	.02	.11	.04	.05
4. Responsible									
A. Teachers	.00	.06	.13 **	.00	.10	.07	.00	.03	.17 ***
B. Coders	.01	.06	.05	.00	.05	.02	.02	.06	.01
5. Active									
A. Teachers	.13	.10	.06	.08	.10	.02	.19	.13	.03 **
B. Coders	.24	.27	.22	.18	.27	.20	.35	.31	.19
6. Considerate									
A. Teachers	.06	.10	.10	.03	.12	.13	.04	.11	.09
B. Coders	.01	.04	.01	.00	.05	.02	.02	.02	.04
7. Inattentive									
A. Teachers	.10	.05	.01 *	.11	.04	.04	.11	.04	.00
B. Coders	.18	.08	.09	.18	.11	.06	.17	.09	.08

Adjective Description Variable	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
	72	124	88	38	101	54	54	112	78
N's =									
3. <u>Temperamental</u>									
A. Teachers	.11	.10	.02	.08	.06	.09	.13	.09	.04
B. Coders	.06	.05	.02	.03	.01	.06	.09	.04	.00 *
9. <u>Unobtrusive</u>									
A. Teachers	.01	.07	.02	.00	.07	.02	.00	.06	.03
B. Coders	.13	.17	.15	.24	.14	.09	.05	.19	.18 *
10. <u>Athletic</u>									
A. Teachers	.00	.05	.09 *	.00	.05	.11 *	.00	.06	.08
B. Coders	.04	.06	.02	.03	.07	.06	.04	.05	.04
11. <u>Humorous</u>									
A. Teachers	.03	.02	.05	.00	.02	.04	.04	.04	.05
B. Coders	.01	.03	.03	.03	.04	.04	.02	.04	.03
12. <u>Other Negative</u>									
A. Teachers	.07	.06	.05	.13	.02	.09 *	.05	.11	.01
B. Coders	.03	.15	.17 **	.00	.13	.15 *	.04	.16	.21 *
13. <u>Other Positive</u>									
A. Teachers	.15	.20	.23	.16	.21	.24	.20	.13	.23
B. Coders	.04	.07	.16 *	.08	.08	.11	.04	.11	.14

Adjective Description Variable

the following adjective variables are scored as bipolar for coders as unipolar for teachers. Scoring is noted.

4. Social Leader

A. Teachers ("1" if social leader mentioned; "0" otherwise).

B. Coders ("2" for social leader, "1" for social follower).

5. Likeable

A. Teachers ("1" if likeable mentioned; "0" otherwise)

B. Coders ("2" for likeable, "1" for obnoxious).

6. Attractive

A. Teachers ("1" if attractive mentioned; "0" otherwise).

B. Coders ("2" for attractive, "1" for unattractive).

7. Dependent

A. Teachers .08

B. Coders

	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
4. Social Leader									
A. Teachers ("1" if social leader mentioned; "0" otherwise).	.03 72	.11 124	.16 88	.05 38	.04 101	.22 * 54	.04 54	.07 112	.18 78
B. Coders ("2" for social leader, "1" for social follower).	1.40 5	1.52 21	1.80 10						
Insufficient Data									
5. Likeable									
A. Teachers ("1" if likeable mentioned; "0" otherwise)	.31 72	.35 124	.27 88	.32 38	.30 101	.26 54	.19 54	.27 112	.38 78
B. Coders ("2" for likeable, "1" for obnoxious).	1.82 11	1.75 16	2.00 17	1.86 7	1.77 13	1.81 16	1.67 9	1.64 14	1.92 12
Insufficient Data									
6. Attractive									
A. Teachers ("1" if attractive mentioned; "0" otherwise).	.14 72	.29 124	.25 88	.16 38	.30 101	.19 54	.19 54	.27 112	.21 78
B. Coders ("2" for attractive, "1" for unattractive).	1.53 15	1.69 16	1.85 13	1.40 5	1.81 16	1.83 6	1.45 11	1.80 15	1.85 13
Insufficient Data									
7. Dependent									
A. Teachers .08	.08 72	.05 124	.03 88	.03 38	.06 101	.07 54	.07 54	.08 112	.05 78
B. Coders	1.39 23	1.38 24	1.43 14	1.22 9	1.38 24	1.43 7	1.37 19	1.41 29	1.29 7

Adjective Description: Variable

The following variables were scored only for teachers.

Bipolar Adjectives, Teachers Only

38. Good Home

	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
	1.12 34	1.20 35	1.52 23	1.23 13	1.20 25	1.38 16	1.08 25	1.19 31	1.56 25
			***						***

Unipolar Adjectives, Teachers Only ("1" if mentioned, "0" otherwise.)

N's = 36

39. Creative

	72	124	88	38	101	54	54	112	78
--	----	-----	----	----	-----	----	----	-----	----

40. Medical Problems

	.03	.06	.16	.03	.03	.22	.06	.08	.10
--	-----	-----	-----	-----	-----	-----	-----	-----	-----

41. Often Absent

	.13	.08	.03	.16	.08	.06	.11	.08	.03
--	-----	-----	-----	-----	-----	-----	-----	-----	-----

42. Sweet

	.10	.04	.00	.05	.05	.00	.11	.05	.01
--	-----	-----	-----	-----	-----	-----	-----	-----	-----

43. Underachiever

	.07	.04	.07	.03	.06	.04	.04	.04	.08
--	-----	-----	-----	-----	-----	-----	-----	-----	-----

44. Cries Easily

	.07	.05	.02	.03	.01	.06	.09	.04	.03
--	-----	-----	-----	-----	-----	-----	-----	-----	-----

45. Untrustworthy

	.06	.04	.00	.05	.03	.04	.04	.05	.01
--	-----	-----	-----	-----	-----	-----	-----	-----	-----

46. Broken Home

	.08	.02	.01	.03	.02	.04	.06	.04	.00
--	-----	-----	-----	-----	-----	-----	-----	-----	-----

The following variables were scored only for coders.

Bipolar Adjectives, Coders Only

47. Good Teacher Relations

	1.00 9	1.36 11	1.50 10	1.00 12	1.50 6	1.71 7	1.00 12	1.50 6	1.71 7
			*						***

Adjective Description Variable

Unipolar Adjectives, Coders Only
 ("1" if mentioned, "0" otherwise.)

38. Female Stereotype

39. Bossy

This variable was computed for
 both teachers and coders.

40. % Positive

A. Teachers

B. Coders

	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
	.06 72	.02 124	.02 88	.05 38	.01 101	.00 54	.02 54	.05 112	.05 78
	.03 72	.07 124	.08 88	.03 38	.06 101	.06 54	.04 54	.09 112	.08 78
	40.50 72	62.90 124	80.38 88	42.95 38	69.13 101	73.07 54	32.91 54	59.63 112	83.49 78
	43.31 72	53.08 124	66.47 88	41.08 38	56.16 101	64.61 54	37.56 54	52.87 112	65.50 78

*** $p \leq .001$

** $p \leq .01$

* $p \leq .05$

Table E-3. Group Means on Adjective Description Variables for Students Perceived Consistently on the Happy and Attractive Scales

Adjective Description Variable	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
The following bipolar variables were scored for both teachers and coders. Numbers in parentheses indicate scores for extremes.						
1. Sociable						
A. Teachers	1.00 7	1.41 16	1.50 6	1.13 8	1.35 17	1.25 8
B. Coders	1.36 11	1.50 50	1.57 21	1.30 23	1.51 47	1.55 20
2. Mature						
A. Teachers	Insufficient Data			Insufficient Data		
B. Coders	Insufficient Data			Insufficient Data		
3. Happy						
A. Teachers	Insufficient Data			1.33 9	1.80 10	2.00 5 *
B. Coders	1.40 5	1.52 23	1.80 15	1.43 7	1.69 16	1.60 10

The following bipolar variables were scored for both teachers and coders. Numbers in parentheses indicate scores for extremes.

Adjective Description Variable

4. Quiet

A. Teachers

B. Coders

Happy			Attractive		
Low	Medium	High	Low	Medium	High

Insufficient Data

1.80 1.89 1.68
16 46 19

5. Helpful

A. Teachers

B. Coders

1.22 1.87 2.00 ***
9 25 12

1.67 1.74 1.89
9 27 9

1.38 1.63 1.80
8 19 5

6. Well behaved

A. Teachers

B. Coders

Insufficient Data

Insufficient Data

1.67 1.68 1.43
12 28 7

7. Confident

A. Teachers

B. Coders

Insufficient Data

1.09 1.17 1.43
11 6 7

Insufficient Data

Adjective Description Variable

8. Motivated

A. Teachers

Happy			Attractive		
Low	Medium	High	Low	Medium	High
1.40 10	1.64 22	2.00 12	1.44 16	1.52 23	1.78 18

B. Coders

Insufficient Data

9. Intelligent

A. Teachers

Happy			Attractive		
Low	Medium	High	Low	Medium	High
1.40 10	1.67 21	2.00 16	1.29 17	1.68 28	2.00 8

B. Coders

Happy			Attractive		
Low	Medium	High	Low	Medium	High
1.56 9	1.52 27	2.00 15	1.15 13	1.75 28	2.00 19

10. Achieving

A. Teachers

Happy			Attractive		
Low	Medium	High	Low	Medium	High
			1.30 10	2.10 29	2.30 20

B. Coders

Insufficient Data

607

11. Good Worker

A. Teachers

Happy			Attractive		
Low	Medium	High	Low	Medium	High
1.41 17	1.68 41	1.79 19	1.50 14	1.64 45	1.72 18

B. Coders

Happy			Attractive		
Low	Medium	High	Low	Medium	High
1.38 13	1.71 56	1.86 28	1.52 21	1.78 54	1.89 27

12. Popular

A. Teachers

Insufficient Data

B. Coders

Happy			Attractive		
Low	Medium	High	Low	Medium	High
1.38 8	1.82 28	1.88 16	1.54 13	1.78 32	1.70 20

Happy			Attractive		
Low	Medium	High	Low	Medium	High
p			p		

N's for #13 through #23

37	101	51	47	104	52
37	101	51	47	104	52

90

A. Teachers

04

.06

A. Teachers

80

A. Teachers

12

A. Teachers

*

Adjective Description Variable

N's =

	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
	37	101	51	47	104	52
<u>18. Temperamental</u>						
A. Teachers	.16	.05	.04 *	.11	.08	.06
B. Coders	.08	.02	.06	.06	.02	.06
<u>19. Unobtrusive</u>						
A. Teachers	.00	.05	.06	.04	.08	.00
B. Coders	.16	.22	.10	.23	.14	.10
<u>20. Athletic</u>						
A. Teachers	.03	.05	.06	.00	.03	.10 *
B. Coders	.05	.05	.02	.02	.04	.06
<u>21. Humorous</u>						
A. Teachers	.05	.04	.02	.02	.04	.04
B. Coders	.05	.04	.02	.02	.02	.06
<u>22. Other Negative</u>						
A. Teachers	.05	.08	.02	.15	.02	.06 **
B. Coders	.05	.15	.12	.11	.12	.23
<u>23. Other Positive</u>						
A. Teachers	.22	.20	.20	.18	.16	.17
B. Coders	.05	.07	.08	.04	.12	.08

Adjective Description Variable

The following adjective variables were scored as bipolar for coders but as unipolar for teachers. Scoring is noted.

24. Social Leader

A. Teachers ("1" if social leader mentioned; "0" otherwise).

B. Coders ("2" for social leader, "1" for social follower).

25. Likeable

A. Teachers ("1" if likeable mentioned; "0" otherwise)

B. Coders ("2" for likeable, "1" for obnoxious).

26. Attractive

A. Teachers ("1" if attractive mentioned; "0" otherwise).

B. Coders ("2" for attractive, "1" for unattractive).

27. Dependent

A. Teachers

B. Coders

Happy				Attractive			
Low	Medium	High	p	Low	Medium	High	p
.05 37	.06 101	.27 51	*	.00 47	.06 104	.15 52	
1.20 5	1.75 12	1.44 9		Insufficient Data			
.11 37	.36 101	.35 51		.13 47	.25 104	.38 52	
1.67 6	1.72 18	2.00 12		1.56 9	1.81 16	2.00 6	
.16 37	.22 101	.20 51		.00 47	.33 104	.35 52	**
1.40 5	1.60 15	1.88 8		1.20 10	1.69 13	1.91 11	**
.03 37	.06 101	.04 51		.02 47	.08 104	.08 52	
1.23 13	1.43 14	1.40 5		1.36 11	1.44 25	1.13 8	

Adjective Description Variable

The following variables were scored only for teachers.

Bipolar Adjectives, Teachers Only

28. Good Home

Unipolar Adjectives, Teachers Only
("1" if mentioned, "0" otherwise.)

N's for #29 through #36 N's =

29. Creative

30. Medical Problems

31. Often Absent

32. Sweet

33. Underachiever

34. Cries Easily

35. Untrustworthy

36. Broken Home

The following variables were scored only for coders.

Bipolar Adjectives, Coders Only

37. Good Teacher Relations

Happy			Attractive		
Low	Medium	High	Low	Medium	High
1.10 21	1.20 15	1.64 14	1.08 24	1.30 27	1.29 14
37	101	51	47	104	52
.03	.08	.16	.06	.07	.13
.05	.10	.00	.17	.09	.02
.14	.03	.00	.11	.03	.02
.05	.09	.06	.04	.02	.02
.08	.05	.00	.09	.05	.02
.03	.02	.02	.06	.00	.04
.08	.04	.02	.09	.01	.04
.08	.04	.04	.13	.09	.06

Insufficient Data

1.00
6

1.71
7

1.14
7

1.00
6

1.71
7

1.14
7

1.00
6

1.71
7

1.14
7

1.00
6

Adjective Description Variable

Unipolar Adjectives, Coders Only
("1" if mentioned, "0" otherwise.)

38. Female Stereotype	This variable was computed for both teachers and coders.												
	40. % Positive												
	A. Teachers						B. Coders						
	.00	.02	.02	.02	.04	.00	36.24	66.63	81.69	37.68	62.92	71.60	***
	37	101	51	104	52		37	101	51	47	104	52	
39. Bossy													
	.03	.05	.14	.05	.08		39.24	53.66	63.90	36.66	55.19	59.67	***
	37	101	51	104	52		37	101	51	47	104	52	

P < .001

10. $\sqrt{a}$
**

* $p < .05$

Table E-4. Group Means on Adjective Description Variables for Students Perceived Consistently on the Noticeable and Eye Contact Scales

Adjective Description Variable	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
The following bipolar variables were scored for both teachers and coders. Numbers in parentheses indicate scores for extremes.						
1. Sociable						
A. Teachers	1.18 11	1.44 18	1.75 8		Insufficient Data	
B. Coders	1.15 26	1.62 45	1.83 18	1.27 15	1.48 44	1.69 13
2. Mature						
A. Teachers					Insufficient Data	
B. Coders					Insufficient Data	
3. Happy						
A. Teachers	1.40 5	1.62 18	2.00 7		Insufficient Data	
B. Coders	1.20 5	1.62 21	1.77 13	1.50 6	1.56 16	1.89 9

	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High

Adjective Description Variable

4. Quiet

A. Teachers	2.00 15	1.67 18	1.33 12	***	Insufficient Data	
B. Coders	2.00 26	1.89 35	1.46 13	***	1.85 13	1.78 9

5. Helpful

A. Teachers	2.00 10	1.86 21	1.73 11		Insufficient Data	
B. Coders					Insufficient Data	

6. Well behaved

A. Teachers					Insufficient Data	
B. Coders	2.29 7	1.57 14	1.25 8	*	1.60 10	2.00 5

7. Confident

A. Teachers	1.29 7	1.45 11	1.67 6		Insufficient Data	
B. Coders	1.00 6	1.56 9	1.75 8	**	Insufficient Data	

Adjective Description Variable

8. Motivated

A. Teachers

B. Coders

9. Intelligent

A. Teachers

B. Coders

10. Achieving

A. Teachers

B. Coders

11. Good Worker

A. Teachers

B. Coders

12. Popular

A. Teachers

B. Coders

Noticeable			Eye Contact		
Low	Medium	High	Low	Medium	High
p					
Insufficient Data					
1.47 17	1.56 16	1.79 19	1.50 8	1.71 14	2.00 8
Insufficient Data					
1.27 11	1.60 15	1.95 22	1.11 9	1.41 17	2.00 8
1.43 14	1.57 23	1.96 24	1.00 7	1.52 23	2.00 10
Insufficient Data					
1.85 13	1.80 25	2.80 ¹ 15	Insufficient Data		
Insufficient Data					
1.62 13	1.51 35	1.80 20	1.55 11	1.43 30	1.81 16
1.74 19	1.78 49	1.81 21	1.54 13	1.84 45	1.92 13
Insufficient Data					
1.50 10	1.88 .5	1.63 16	Insufficient Data		

Adjective Description Variable

The following unipolar adjective variables were scored for both coders and teachers. When the adjective was given, a score of "1" was assigned. When it was not given, a "0" was assigned as the student's score.

N's for #13 through #23 N's =

13. Aggressive

A. Teachers

B. Coders

14. Responsible

A. Teachers

B. Coders

15. Active

A. Teachers

B. Coders

16. Considerate

A. Teachers

B. Coders

17. Inattentive

A. Teachers

B. Coders

Noticeable			Eye Contact		
Low	Medium	High	Low	Medium	High
			p		

40	93	57	29	90	35
.00	.06	.14	.03	.03	.06
.05	.09	.07	.07	.07	.03
.05	.04	.09	.03	.04	.11
.05	.06	.04	.00	.04	.00
.03	.05	.21	.21	.07	.06
.03	.25	.32	.38	.30	.29
.10	.06	.07	.10	.08	.06
.10	.03	.00	.00	.07	.00
.05	.08	.02	.14	.06	.00
.13	.10	.07	.14	.17	.06

Adjective Description Variable	N's =	Noticeable			Eye Contact		
		Low	Medium	High	Low	Medium	High
18. <u>Temperamental</u>		40	93	57	29	90	35
A. Teachers		.03	.10	.11	.03	.07	.11
B. Coders		.10	.03	.07	.03	.00	.06
19. <u>Unobtrusive</u>							
A. Teachers		.03	.04	.02	.00	.02	.06
B. Coders		.23	.16	.04 *	.14	.17	.09
20. <u>Athletic</u>							
A. Teachers		.00	.06	.07	.00	.03	.09
B. Coders		.00	.04	.05	.10	.03	.03
21. <u>Humorous</u>							
A. Teachers		.00	.01	.07 *	.03	.01	.03
B. Coders		.03	.04	.05	.03	.01	.00
22. <u>Other Negative</u>							
A. Teachers		.03	.12	.05	.07	.06	.03
B. Coders		.08	.14	.26 *	.03	.12	.40 ***
23. <u>Other Positive</u>							
A. Teachers		.08	.22	.26 *	.17	.21	.17
B. Coders		.05	.11	.04	.03	.06	.11

Adjective Description Variable

The following adjective variables were scored as bipolar for coders but as unipolar for teachers. Scoring is noted.

24. Social Leader

A. Teachers ("1" if social leader mentioned; "0" otherwise).

B. Coders ("2" for social leader, "1" for social follower).

25. Likeable

A. Teachers ("1" if likeable mentioned; "0" otherwise).

B. Coders ("2" for likeable, "1" for obnoxious).

26. Attractive

A. Teachers ("1" if attractive mentioned; "0" otherwise).

B. Coders ("2" for attractive, "1" for unattractive).

27. Dependent

A. Teachers

B. Coders

	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
A. Teachers	.00 40	.09 93	.21 57	.07 29	.04 90	.40 35
B. Coders						
Insufficient Data						
A. Teachers	.20 40	.37 93	.39 57	.00 29	.29 90	.29 35
B. Coders	1.86 7	1.69 16	1.77 13	Insufficient Data		
A. Teachers	.20 40	.19 93	.32 57	.07 29	.16 90	.34 35
B. Coders				1.86 7	1.62 13	1.78 9
Insufficient Data						
A. Teachers	.00 40	.10 93	.05 57	.17 29	.10 90	.06 35
B. Coders	1.29 14	1.21 14	1.43 7	Insufficient Data		

	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High

Adjective Description Variable

The following variables were scored only for teachers.

Bipolar Adjectives, Teachers Only

28. Good Home

1.31 13	1.18 28	1.29 17	1.00 16	1.07 28	1.50 6	***
------------	------------	------------	------------	------------	-----------	-----

Unipolar Adjectives, Teachers Only ("1" if mentioned, "0" otherwise.)

N's for #29 through #36 N's =

29. Creative

40	93	57	29	90	35	*
.03	.05	.16	.03	.06	.17	

30. Medical Problems

.15	.08	.05	.00	.09	.03	
-----	-----	-----	-----	-----	-----	--

31. Often Absent

.10	.02	.00	.17	.04	.00	**
-----	-----	-----	-----	-----	-----	----

32. Sweet

.10	.03	.02	.03	.07	.03	
-----	-----	-----	-----	-----	-----	--

33. Underachiever

.03	.06	.04	.10	.04	.00	
-----	-----	-----	-----	-----	-----	--

34. Cries Easily

.03	.08	.00	.03	.06	.00	
-----	-----	-----	-----	-----	-----	--

35. Untrustworthy

.05	.03	.05	.10	.01	.03	*
-----	-----	-----	-----	-----	-----	---

36. Broken Home

.08	.10	.07	.17	.13	.06	
-----	-----	-----	-----	-----	-----	--

The following variables were scored only for coders.

Bipolar Adjectives, Coders Only

37. Good Teacher Relations

Insufficient Data Insufficient Data

Adjective Description Variable

Unipolar Adjectives, Coders Only
("1" if mentioned, "0" otherwise.)

38. Female Stereotype

39. Bossy

This variable was computed for both teachers and coders.

40. % Positive

A. Teachers

B. Coders

NotIceable				Eye Contact			
Low	Medium	High	p	Low	Medium	High	p
.05 40	.05 93	.02 57		.00 29	.04 90	.06 35	
.00 40	.09 93	.14 57	*	.03 29	.08 90	.11 35	
61.10 40	54.95 93	71.42 57	*	38.17 29	62.96 90	76.49 35	***
48.18 40	55.23 93	58.35 57	*	36.52 29	53.93 90	57.20 35	**

*** $p \leq .001$
 ** $p \leq .01$
 * $p \leq .05$

Table E-5. Group Means on Adjective Description Variables for Students Perceived Consistently on the Cooperative Scale

Adjective Description Variable		Cooperative		
		Low	Medium	High
The following bipolar variables were scored for both teachers and coders. Numbers in parentheses indicate scores for extremes.				
1. Sociable				
A. Teachers	1.20 5	1.50 26	1.20 10	
B. Coders	1.56 16	1.57 51	1.44 34	
2. Mature				
A. Teachers	Insufficient Data			
B. Coders	Insufficient Data			
3. Happy				
A. Teachers	1.33 6	1.83 18	1.63 8	
B. Coders	1.70 10	1.46 24	1.69 16	

Adjective Description Variable

Cooperative

	Low	Medium	High	p
--	-----	--------	------	---

4. Quiet

A. Teachers

1.20	1.66	1.94	***
5	35	18	

B. Coders

1.64	1.81	1.94	*
14	54	32	

5. Helpful

A. Teachers

1.44	1.80	2.00	***
9	20	17	

B. Coders

1.25	1.89	1.83	**
12	19	6	

6. Well behaved

A. Teachers

Insufficient Data

B. Coders

1.52	1.70	2.50	**
23	27	10	

622

7. Confident

A. Teachers

Insufficient Data

B. Coders

Insufficient Data

Adjective Description Variable

B. Motivated

A. Teachers

B. Coders

9. Intelligent

A. Teachers

B. Coders

10. Achieving

A. Teachers

B. Coders

11. Good Worker

A. Teachers

B. Coders

12. Popular

A. Teachers

B. Coders

Cooperative			
Low	Medium	High	p
1.08 13	1.65 26	1.95 20	***
1.60 5	1.60 15	1.75 8	
1.50 14	1.42 19	1.96 24	***
1.44 16	1.55 33	1.95 19	**
1.80 10	2.00 38	2.68 22	**
Insufficient Data			
1.24 21	1.65 49	1.89 28	***
1.40 20	1.72 58	1.91 35	***
1.14 7	1.65 17	1.92 12	***
1.64 11	1.72 32	1.95 20	

Adjective Description Variable

The following unipolar adjective variables were scored for both coders and teachers. When the adjective was given, a score of "1" was assigned. When it was not given, a "0" was assigned as the student's score.

N's for #13 through #23 N's =

13. Aggressive

A. Teachers

B. Coders

14. Responsible

A. Teachers

B. Coders

15. Active

A. Teachers

B. Coders

16. Considerate

A. Teachers

B. Coders

17. Inattentive

A. Teachers

B. Coders

Cooperative

Low Medium High p

48	119	65	
.17	.05	.00	***
.08	.07	.02	
.00	.01	.15	***
.04	.06	.05	
.21	.09	.00	***
.46	.24	.11	***
.02	.08	.12	
.00	.04	.03	
.10	.07	.00	*
.17	.13	.11	

Adjective Description Variable
N's =

		Cooperative			
		Low	Medium	High	p
		48	119	65	
18.	<u>Temperamental</u>				
	A. Teachers	.15	.09	.02	*
	B. Coders	.08	.03	.00	
19.	<u>Unobtrusive</u>				
	A. Teachers	.00	.07	.05	
	B. Coders	.10	.17	.12	
20.	<u>Athletic</u>				
	A. Teachers	.02	.03	.05	
	B. Coders	.06	.02	.02	
21.	<u>Humorous</u>				
	A. Teachers	.04	.03	.03	
	B. Coders	.00	.06	.02	
22.	<u>Other Negative</u>				
	A. Teachers	.08	.10	.00	*
	B. Coders	.15	.16	.06	
23.	<u>Other Positive</u>				
	A. Teachers	.15	.18	.23	
	B. Coders	.06	.07	.18	*

Cooperative

Adjective Description Variable

The following adjective variables were scored as bipolar, for coders but as unipolar for teachers. Scoring is noted.

24. Social Leader

A. Teachers ("1" if social leader mentioned; "0" otherwise).

B. Coders ("2" for social leader, "1" for social follower).

25. Likeable

A. Teachers ("1" if likeable mentioned; "0" otherwise).

B. Coders ("2" for likeable, "1" for obnoxious).

26. Attractive

A. Teachers ("1" if attractive mentioned; "0" otherwise).

B. Coders ("2" for attractive, "1" for unattractive).

27. Dependent

A. Teachers

B. Coders

	Low	Medium	High	p
A. Teachers	.00 48	.12 119	.15 65	
B. Coders				
Insufficient Data				
A. Teachers	.17 48	.39 119	.40 65	
B. Coders	1.75 8	1.74 23	2.00 10	
A. Teachers	.17 48	.25 119	.22 65	
B. Coders	1.43 7	1.60 15	1.56 9	
A. Teachers	.06 48	.10 119	.02 65	
B. Coders	1.23 13	1.48 25	1.33 6	

Adjective Description Variable

The following variables were scored only for teachers.

Bipolar Adjectives, Teachers Only

28. Good Home

Low	Medium	High	p
1.05 21	1.26 31	1.73 15	***

Unipolar Adjectives, Teachers Only
("1" if mentioned, "0" otherwise.)

N's for #29 through #36 N's =

29. Creative

48 119 65

30. Medical Problems

.04 .08 .09

31. Often Absent

.13 .08 .02 *

32. Sweet

.06 .06 .02

33. Underachiever

.00 .02 .11 **

34. Cries Easily

.10 .03 .00 **

35. Untrustworthy

.02 .06 .00 **

36. Broken Home

.08 .04 .00

The following variables were scored only for coders.

Bipolar Adjectives, Coders Only

37. Good Teacher Relations

1.11 9	1.33 6	1.50 8
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Adjective Description Variable

Unipolar Adjectives, Coders Only
(“1” if mentioned, “0” otherwise.)

38. Female Stereotype

39. Bossy

This variable was computed for both teachers and coders.

40. % Positive

A. Teachers

B. Coders

0228

*** $p \leq .001$
** $p \leq .01$
* $p \leq .05$

Cooperative			
Low	Medium	High	p
.03 48	.04 119	.05 65	
.03 48	.07 119	.08 65	
29.48 48	56.92 119	85.94 65	***
40.48 48	51.69 119	70.45 65	**

Table E-6. Group Means on Adjective Description Variables for Students Perceived Consistently on the Attachment and Concern Scales

Adjective Description Variable	Attachment			Concern		
	Low	Medium	High	Low	Medium	High
1. Sociable						
A. Teachers				1.50 8	1.47 19	1.14 7
B. Coders	1.54 13	1.45 38	1.41 32	1.52 29	1.55 42	1.29 17
2. Mature						
A. Teachers						
B. Coders						
3. Happy						
A. Teachers	1.50 6	1.77 13	1.60 5			
B. Coders	1.56 9	1.42 19	1.62 13	1.59 17	1.63 19	1.57 7

The following bipolar variables were scored for both teachers and coders. Numbers in parentheses indicate scores for extremes.

Insufficient Data

Insufficient Data

Insufficient Data

Insufficient Data

Insufficient Data

Adjective Description Variable

4. Quiet

A. Teachers

B. Coders

Attachment			Concern		
Low	Medium	High	Low	Medium	High
1.50 6	1.82 22	1.89 19	1.65 17	1.74 27	1.64 11
1.82 11	1.83 35	1.90 31	1.79 28	1.79 43	1.88 16

*

5. Helpful

A. Teachers

B. Coders

1.40 5	1.88 16	2.00 12	2.00 12	1.74 23	1.60 5
1.00 6	1.69 16	1.71 7	1.71 7	1.69 16	1.29 7

**

**

6. Well behaved

A. Teachers

B. Coders

1.50 10	2.13 8	2.60 5	Insufficient Data		
1.47 19	1.86 21	2.40 10	2.17 6	1.61 23	1.69 16

*

**

7. Confident

A. Teachers

B. Coders

Insufficient Data			Insufficient Data		
Insufficient Data			1.80 5	1.60 15	1.50 6

Adjective Description Variable

8. Motivated

A. Teachers

B. Coders

9. Intelligent

A. Teachers

B. Coders

10. Achieving

A. Teachers

B. Coders

11. Good Worker

A. Teachers

B. Coders

12. Popular

A. Teachers

B. Coders

Attachment

Low	Medium	High	p
-----	--------	------	---

1.23 13	1.76 25	1.87 15	***
1.20 5	1.43 14	1.71 7	

1.33 18	1.63 16	2.00 25	***
1.15 13	1.57 28	1.95 19	***

1.14 7	2.16 25	2.61 28	***
Insufficient Data			

1.18 11	1.57 35	1.88 33	***
1.38 16	1.78 46	1.95 37	***

Insufficient Data

1.71 7	1.69 29	1.86 22	
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Concern

Low	Medium	High	p
-----	--------	------	---

1.86 14	1.65 26	1.36 14	**
2.00 7	1.62 13	1.38 8	*

1.92 24	1.55 11	1.00 9	***
2.00 15	1.57 28	1.29 17	***

2.88 24	1.91 23	1.08 12	***
2.74 23	2.25 16	1.60 5	**

1.96 24	1.61 44	1.39 18	***
1.91 34	1.77 46	1.60 20	*

Insufficient Data

1.91 22	1.74 27	1.58 12	
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Adjective Description Variable

he following unipolar adjective variables were scored for both coders and teachers. When the adjective was given, a score of "1" was assigned. When it was not given, a "0" was assigned as the student's score.

N's for #13 through #23

N's =

13. Aggressive

A. Teachers

B. Coders

14. Responsible

A. Teachers

B. Coders

15. Active

A. Teachers

B. Coders

16. Considerate

A. Teachers

B. Coders

17. Inattentive

A. Teachers

B. Coders

Attachment			Concern		
Low	Medium	High	Low	Medium	High
p					p
39	95	67	63	99	45
.08	.01	.03	.03	.06	.04
.08	.08	.07	.02	.09	.07
.00	.04	.13	.10	.05	.00
.00	.08	.00	.03	.06	.07
.28	.07	.03	.03	.11	.22
.44	.23	.19	.14	.31	.31
.05	.09	.13	.14	.09	.04
.00	.07	.03	.02	.01	.00
.15	.06	.00	.02	.07	.13
.23	.12	.10	.14	.07	.11

Adjective Description Variable

N's =

	Attachment			Concern		
	Low 39	Medium 95	High 67	Low 63	Medium 99	High 45
<u>18. Temperamental</u>						
A. Teachers	.10	.06	.04	.05	.05	.16 *
B. Coders	.08	.02	.03	.00	.03	.07
<u>19. Unobtrusive</u>						
A. Teachers	.00	.04	.03	.05	.09	.00
B. Coders	.08	.14	.16	.17	.16	.16
<u>20. Athletic</u>						
A. Teachers	.00	.06	.07	.05	.05	.00
B. Coders	.05	.06	.03	.06	.04	.04
<u>21. Humorous</u>						
A. Teachers	.00	.02	.04	.02	.03	.02
B. Coders	.00	.05	.03	.02	.04	.00
<u>22. Other Negative</u>						
A. Teachers	.05	.08	.01	.02	.06	.02
B. Coders	.10	.09	.12	.14	.15	.09
<u>23. Other Positive</u>						
A. Teachers	.08	.14	.22	.22	.17	.24
B. Coders	.05	.07	.15	.10	.08	.00

Adjective Description Variable

The following variables were scored only for teachers.

Bipolar Adjectives, Teachers Only

	Attachment			Concern		
	Low	Medium	High	Low	Medium	High
28. <u>Good Home</u>	1.12 17	1.10 29	1.63 19	1.58 12	1.26 27	1.11 18

Unipolar Adjectives, Teachers Only ("1" if mentioned, "0" otherwise.)

N's for #29 through #36 N's =

	29.	30.	31.	32.	33.	34.	35.	36.
<u>Creative</u>	.03	.13	.08	.00	.10	.03	.10	.08
<u>Medical Problems</u>	.07	.11	.09	.08	.04	.05	.03	.15
<u>Often Absent</u>	.09	.03	.01	.06	.00	.00	.00	.04
<u>Sweet</u>	.09	.03	.01	.06	.00	.00	.00	.04
<u>Underachiever</u>	.09	.03	.01	.06	.00	.00	.00	.04
<u>Cries Easily</u>	.09	.03	.01	.06	.00	.00	.00	.04
<u>Untrustworthy</u>	.09	.03	.01	.06	.00	.00	.00	.04
<u>Broken Home</u>	.09	.03	.01	.06	.00	.00	.00	.04

The following variables were scored only for coders.

Bipolar Adjectives, Coders Only

	37.
<u>Good Teacher Relations</u>	1.13 8
	1.17 6
	1.63 8

Insufficient Data

Adjective Description Variable

Unipolar Adjectives, Coders Only
("1" if mentioned, "0" otherwise.)

38. Female Stereotype

39. Bossy

This variable was computed for both teachers and coders.

40. % Positive

A. Teachers

B. Coders

636

*** $p \leq .001$
** $p \leq .01$
* $p \leq .05$

	Attachment			Concern		
	Low	Medium	High	Low	Medium	High
						p
	.05 39	.03 95	.01 67	.02 63	.06 99	.02 45
	.05 39	.09 95	.07 67	.11 63	.08 99	.00 45
						*
	28.18 39	59.89 95	84.85 67	83.10 63	59.86 99	39.40 45

	33.00 39	52.04 95	65.67 67	66.75 63	52.27 99	39.07 45

APPENDIX F
Group Means for Classroom Observation
Variables

Table F-1. Group Means for Classroom Observation Variables for
Students Perceived Consistently on the Calm, Careful, and Mature Scales

Proportion of:	Calm				Careful				Mature			
	Low	Medium	High	p	Low	Medium	High	p	Low	Medium	High	p
1. dyadic contacts which were response opportunities	45.36	50.45	54.87	***	45.45	51.64	51.25	***	46.73	50.32	52.01	**
2. response opportunities occurring in small groups	48.96	50.17	50.13		51.18	50.74	47.96		51.13	51.25	47.53	*
3. response opportunities occurring in general class	51.04	49.83	49.87		48.83	49.26	52.06		48.87	48.76	52.47	*
<u>Small Group Data</u>												
4. small group response opportunities given non-volunteers	50.39	52.21	48.73		51.60	50.17	47.43		52.83	50.78	46.82	*
5. non-volunteers called on in small groups given praise	47.00	49.59	51.69		48.13	50.90	51.10		47.52	50.83	51.50	
6. non-volunteers called on in small groups given criticism	49.15	50.41	48.91		49.41	51.33	49.16		49.45	50.10	48.96	
7. small group response opportunities given volunteers	48.61	47.45	53.93	**	47.57	48.83	54.90	**	46.86	50.35	52.95	*
8. volunteers called on in small groups given praise	49.06	51.64	49.03		50.35	49.68	50.45		51.53	50.04	48.41	
9. volunteers called on in small groups given criticism	49.50	50.30	49.52		49.64	49.96	51.10		49.63	50.63	49.45	
10. small group response opportunities given waving volunteers	53.97	49.71	49.07	*	54.57	47.84	50.30	***	53.23	49.07	50.31	

Proportion of:	<u>Calm</u>				<u>Careful</u>				<u>Mature</u>			
	Low	Medium	High	p	Low	Medium	High	p	Low	Medium	High	p
11. waving volunteers called on in small group given praise												
12. waving volunteers called on in small group given criticism												
13. small group response opportunities given to called-out answers	50.52	50.15	47.37		50.03	50.69	48.28		49.03	46.65	49.90	
14. called-out answers in small groups given praise	47.94	52.84	47.78		50.57	49.74	46.90		50.48	49.88	46.56	
15. called-out answers in small groups given criticism	51.28	49.55	52.72		50.05	48.69	50.80		48.52	48.67	52.89 *	
16. small group response opportunities given praise	48.19	50.02	50.54		47.81	52.23	49.25		48.69	51.53	48.97	
17. small group response opportunities given criticism	48.68	50.44	51.34		49.08	49.63	50.05		48.37	48.94	51.51	
<u>General Class Data</u>												
18. general class response opportunities given non-volunteers	49.04	50.58	48.35		50.76	50.15	48.10		52.34	50.01	49.12	
19. non-volunteers called on in general class given praise	53.97	48.98	49.65 *		52.34	49.88	49.18		52.20	49.58	49.26	
20. non-volunteers called on in general class given criticism	51.82	49.09	49.00 *		50.18	48.78	50.34		51.51	49.20	50.50	

Proportion of:	Calm			Careful			Mature		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
21. general class response opportunities given volunteers	48.06	49.31	53.05 *	49.04	50.51	52.32	47.60	49.94	51.74 *
22. volunteers given praise in general class	49.10	51.45	48.87	50.00	50.13	48.07	50.17	50.01	49.00
23. volunteers given criticism in general class	48.98	49.33	49.91	48.93	50.99	49.02	50.09	50.32	49.07
24. general class response opportunities given waving volunteers	49.33	50.65	49.38	49.20	50.08	50.46	51.62	49.25	49.22
25. waving volunteers given praise in general class	48.33	50.53	50.00	48.33	50.67	50.00	50.00	50.00	50.00
26. waving volunteers given criticism in general class	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
27. general class response opportunities given to called-out answers	54.63	50.20	47.78 ***	51.00	49.07	49.34	49.64	50.16	48.61
28. called-out answers in general class given praise	48.19	51.50	52.38	48.00	51.12	51.67	51.00	48.04	50.72
29. called-out answers in general class given criticism	49.42	49.40	47.86	51.54	49.07	51.30	49.59	50.44	50.04
30. general class response opportunities given praise	51.57	50.12	50.24	50.71	50.63	49.60	50.60	49.80	49.80
31. general class response opportunities given criticism	49.78	49.16	48.70	48.80	49.45	49.81	51.10	49.82	49.04

Total Response Opportunities		Calm.			Careful			Mature		
		Low Medium High			Low Medium High			Low Medium High		
		p			p			p		
Proportion of:										
32.	response opportunities in which volunteers, waving volunteers, and called-out answers received praise	49.48	50.86	50.09	49.18	50.91	49.26	49.05	51.17	49.14
33.	response opportunities in which volunteers, waving volunteers, and called-out answers received criticism	48.80	49.52	49.87	49.02	50.22	50.10	50.10	49.71	49.64
34.	response opportunities in which non-volunteers received praise	51.65	49.55	49.48	49.75	51.72	49.01	51.05	49.94	48.97
35.	response opportunities in which non-volunteers received criticism	50.96	49.71	48.78	49.67	49.41	49.51	51.08	49.20	49.61
36.	dyadic contacts which were teacher afforded	48.13	49.22	51.67	49.22	50.42	51.48	50.66	49.66	51.33
37.	public and private work contacts which were private	52.45	49.61	47.03	** 53.19	48.70	49.61	* 53.21	48.97	49.67
38.	all public and private work contacts, including approval seeking which were private	52.93	49.52	46.80	** 53.34	48.53	49.42	** 53.31	48.97	49.33
39.	all dyadic contacts (excluding behavior) which were private non-academic	53.70	49.80	46.52	*** 52.81	48.26	49.73	* 52.02	49.68	48.13
40.	teacher afforded contacts which were work related	50.63	50.54	49.32	50.57	52.07	47.09	** 52.95	50.51	49.57

Proportion of:	Calm			Careful			Mature		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
41. teacher afforded work contacts given praise	47.85	48.84	49.58	50.91	49.79	50.83	50.66	49.63	50.51
42. teacher afforded work contacts given criticism	54.25	50.46	47.00 ***	52.25	49.07	47.47 **	52.39	50.28	47.16 **
43. teacher afforded work contacts in which child has a positive reaction	48.60	49.19	49.22	49.52	49.49	51.19	49.10	50.95	48.60
44. teacher afforded work contacts in which child has a negative reaction	50.78	50.00	48.72	51.30	49.40	48.91	51.00	49.04	50.38
45. teacher afforded work contacts which were observations of work	47.05	49.75	51.77 **	47.68	51.41	49.96	47.97	50.56	51.40
46. teacher afforded work contacts which were brief	51.75	49.85	48.02	52.11	48.95	50.35	52.00	50.15	48.27
47. teacher afforded work contacts which were long	50.31	50.51	51.05	49.16	50.20	49.24	49.21	49.43	50.78
48. teacher afforded contacts which were housekeeping	47.41	49.25	52.00 *	47.93	47.91	53.99 ***	46.11	50.22	50.64 **
49. teacher afforded housekeeping contacts which were routine	50.52	50.32	49.61	49.26	48.84	50.64	51.57	49.54	49.37
50. teacher afforded housekeeping contacts in which child received thanks	49.38	49.55	49.56	50.54	51.49	49.07	48.49	50.40	49.77

Proportion of:	<u>Calm</u>			<u>Careful</u>			<u>Mature</u>		
	p			p			p		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
51. teacher afforded housekeeping contacts which served as rewards	49.88	49.56	50.44	50.26	49.61	49.71	49.23	50.19	50.82
52. teacher afforded contacts which were personal	52.59	50.60	48.07 *	51.47	49.78	43.99	51.24	49.07	49.38
53. teacher afforded personal contacts which were routine	52.50	50.23	49.53	51.55	49.65	50.40	49.77	50.42	51.97
54. teacher afforded personal contacts to which child responded with a positive reaction	48.21	50.36	52.94	47.88	50.71	49.80	49.77	50.67	49.58
55. teacher afforded personal contacts to which child responded with a negative reaction	48.50	49.46	47.41	49.90	50.25	50.53	51.38	49.19	48.12
56. teacher afforded contacts which were social	51.27	50.04	50.49	50.22	49.55	49.86	50.24	48.50	50.76
57. teacher afforded social contacts which were routine	50.88	50.17	49.47	54.86	50.56	51.00	53.79	49.35	48.86
58. teacher afforded social contacts to which child responded with a positive reaction	50.59	49.33	50.65	46.50	49.52	47.93	47.86	50.74	49.93
59. teacher afforded social contacts to which child responded with a negative reaction	48.41	50.96	49.82	48.71	49.89	50.79	48.29	49.87	51.00 *

Behavior Related Contacts	Proportion of:	Calm			Careful			Mature		
		p			p			p		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
60. dyadic contacts which were behavioral contacts		57.27	50.27	43.93 ***	55.26	49.96	45.08 ***	54.19	49.46	45.69 ***
61. behavioral contacts which were typical misbehaviors (i.e., individually inappropriate, social chat, disruptive, and deliberate trouble making)		51.79	50.84	47.91 *	51.60	50.90	47.77	52.56	50.65	48.00 *
62. typical misbehaviors (see #61) which were non-disruptive (i.e., individually inappropriate and social chat)		47.05	50.53	53.89 ***	47.74	50.49	51.03	48.74	48.88	53.08 *
63. typical misbehaviors (see #61) which were disruptive (i.e., disruptive and deliberate trouble making)		52.95	49.47	46.11 ***	52.26	49.51	48.97	51.26	51.12	46.92 *
64. behavioral contacts which represented aggression toward the teacher (i.e., griping and sassing/defying)		51.63	49.70	47.55 *	52.79	49.27	47.92 **	51.05	50.63	47.94
65. behavioral contacts which represented aggression toward peers (i.e., bossing, bullying, verbal and physical aggression)		49.95	50.93	47.88	49.44	51.28	49.34	49.87	49.64	50.12
66. behavioral contacts which represented poor coping behavior or emotional over-reaction (crying and pouting/sulking)		50.52	49.83	49.41	50.54	49.58	49.93	50.54	50.39	49.39
67. behavioral contacts which were non-interactive, anti-social misbehaviors (cheating + sleeping + vomiting)		50.23	50.00	49.66	49.44	49.84	48.90	49.69	49.91	49.96

Proportion of:	Calm			Careful			Mature		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
68. behavioral contacts which represented behavioral praise	49.02	48.66	54.47 ***	49.07	45.39	52.61 *	48.93	48.81	53.12 **
69. behavioral contacts responded to with non-verbal intervention	52.71	48.23	49.36 *	50.84	48.94	50.97	49.89	49.38	50.49
70. behavioral contacts responded to with management interventions	50.16	51.42	50.84	50.35	50.35	48.16	50.57	50.35	48.71
71. behavioral contacts responded to with warning interventions	50.54	51.01	45.25 ***	51.02	50.77	48.23	51.28	50.46	47.97
72. behavioral contacts responded to with threat interventions	52.48	50.95	47.71 *	51.25	49.15	48.66	51.57	49.63	48.78
73. behavioral contacts responded to with criticism	52.84	49.69	46.86 ***	51.51	49.94	47.65 *	51.87	50.11	47.82 *
74. behavioral contacts which were of a negative nature	50.41	51.52	46.71 *	51.25	50.94	46.11 **	51.39	50.53	46.16 **
75. behavioral contacts in which child responds by being cowed	49.88	50.75	49.69	50.00	50.05	49.80	51.18	50.04	49.64
76. behavioral contacts in which child responds by being sullen	53.98	50.68	46.81 ***	52.47	50.18	47.49 **	51.77	50.31	46.94 **
77. behavioral contacts and adult critical incidents which were positively reinforcing	48.21	48.82	54.21 ***	50.81	49.59	51.76	49.26	50.02	51.67
78. misbehaviors coded to which the teacher responded	48.70	50.61	51.96	49.73	50.53	49.10	49.82	50.38	48.75

Proportion of:	Calm			Careful			Mature		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
79. typical misbehaviors (see #61) disciplined by management	49.18	50.26	53.35 *	49.60	50.73	49.88	49.80	48.92	50.87
80. typical misbehaviors (see #61) disciplined by warnings	50.36	50.59	45.66 **	51.14	50.05	48.43	50.69	50.59	48.97
81. typical misbehaviors (see #61) disciplined by threat or criticism	51.86	50.55	47.06 *	50.77	49.76	47.76	51.25	50.51	47.51 *
82. typical, non-disruptive misbehaviors (see #62) disciplined by management	49.25	50.29	53.23	50.07	50.03	50.13	50.02	48.70	50.87
83. typical, non-disruptive misbehaviors (see #62) disciplined by warnings	51.35	50.30	45.98 **	50.93	49.94	48.33	50.84	50.68	49.18
84. typical, non-disruptive misbehaviors (see #62) disciplined by threat or criticism	51.53	50.81	48.06	50.16	50.89	48.46	50.62	50.94	48.27
85. typical, disruptive misbehaviors (see #63) disciplined by management	50.10	48.73	48.00	49.97	53.24	46.94	48.69	52.69	49.67
86. typical, disruptive misbehaviors (see #63) disciplined by warnings	48.36	50.13	53.14	49.40	49.61	52.44	50.67	48.06	51.33
87. typical, disruptive misbehaviors (see #63) disciplined by threat or criticism	52.13	51.93	44.71	51.26	46.95	48.78	51.61	48.67	48.25
88. misbehaviors related to aggression toward teacher (see #64) disciplined by management	Insufficient Data			Insufficient Data			Insufficient Data		

Proportion of:	Calm			Careful			Mature		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
	p	p	p	p	p	p	p	p	p
89. misbehaviors related to aggression toward teacher (see #64) disciplined by warnings									
90. misbehaviors related to aggression toward teacher (see #64) disciplined by threat or criticism									
91. misbehaviors related to peer aggression (see #65) disciplined by management	50.25	52.04	50.00	49.63	50.20	48.75	49.78	51.76	48.18
92. misbehaviors related to peer aggression (see #65) disciplined by warnings	53.40	48.63	45.80	51.75	46.36	52.38	51.39	48.57	47.00
93. misbehaviors related to peer aggression (see #65) disciplined by threat or criticism	51.15	51.04	47.40	53.00	49.00	48.25	52.39	47.10	49.73
94. poor coping behaviors (see #66) disciplined by management									
95. poor coping behaviors (see #66) disciplined by warnings									
96. poor coping behaviors (see #66) disciplined by threat or criticism									

Child Initiated Contacts

Proportion of:

	<u>Calm</u>			<u>Careful</u>			<u>Mature</u>		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
97. dyadic contacts which were child initiated	49.00	50.27	50.09	49.34	48.24	52.05	48.65	49.97	50.94
98. child initiated contacts which were work related	48.00	49.52	52.23 *	48.62	50.38	50.91	49.79	48.91	52.64
99. child initiated work contacts which were refused	52.59	50.46	47.57 **	51.90	50.42	48.27	53.53	49.45	46.96 ***
100. child initiated work contacts receiving brief feedback	49.22	50.20	50.15	48.95	50.30	50.43	48.63	50.73	51.13
101. child initiated work contacts receiving long feedback	49.36	49.66	50.99	50.55	49.40	50.00	50.06	49.26	49.97
102. child initiated work contacts receiving praise	50.41	50.30	49.78	51.90	50.09	49.55	52.45	49.69	48.62
103. child initiated work contacts receiving criticism	51.91	49.40	49.41	50.43	48.91	49.06	49.87	49.95	49.80
104. child initiated work contacts accompanied by teacher impatience	51.52	49.77	49.41	50.74	49.41	48.01	52.02	49.64	48.03 *
105. child initiated contacts which were approval seeking	51.13	49.93	48.83	49.78	49.90	48.56	51.48	49.99	48.42
106. child initiated approval seeking contacts which were refused	50.44	50.85	48.94	50.53	50.46	49.60	49.66	50.26	48.81
107. child initiated approval seeking contacts which were given feedback	49.47	49.21	50.88	49.55	49.49	50.24	50.38	49.77	51.09

Proportion of:	Calm			Careful			Mature		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
108. child initiated approval seeking contacts which were praised	49.38	48.97	52.03	49.35	49.44	50.73	47.71	49.83	51.62
109. child initiated approval seeking contacts which were criticized	49.12	49.74	48.67	49.06	48.81	48.85	48.91	49.58	48.49
110. child initiated contacts which were either work or approval seeking contacts	48.45	49.52	51.57	48.79	50.31	50.52	50.52	49.08	51.86
111. child initiated work or approval seeking contacts which were praised	50.11	50.00	49.74	51.36	50.02	49.29	52.21	49.72	49.24
112. child initiated work or approval seeking contacts which were criticized	51.52	49.48	49.03	50.09	48.73	48.80	49.53	50.07	49.30
113. child initiated contacts which were housekeeping	48.45	50.43	49.86	48.45	48.84	49.64	47.77	49.84	50.04
114. child initiated housekeeping contacts which were refused	51.18	51.89	45.50 *	53.52	49.53	48.23	53.88	51.02	45.15 **
115. child initiated housekeeping contacts which were approved	48.82	48.02	54.50 *	46.25	50.38	51.74	45.83	48.97	54.85 **
116. child initiated housekeeping contacts receiving teacher thanks	48.93	51.44	49.22	49.86	51.55	47.59	48.96	51.83	47.53
117. child initiated housekeeping contacts receiving teacher reward	50.68	49.13	48.72	49.00	49.04	48.87	48.84	49.77	48.79
118. child initiated housekeeping contacts receiving teacher reward or that	50.25	50.39	48.75	49.52	50.61	47.23	48.52	51.06	47.15

Proportion of:	<u>Calm</u>			<u>Careful</u>			<u>Mature</u>		
	<u>Low</u>			<u>Low</u>			<u>Low</u>		
	Medium	High	p	Medium	High	p	Medium	High	p
119. child initiated contacts which were personal	50.93	50.92	50.09	50.69	49.72	49.60	49.34	51.68	50.44
120. child initiated personal contacts which were refused	50.85	50.30	47.07	50.20	48.93	48.38	50.09	49.50	49.16
121. child initiated personal contacts which were approved	48.88	49.64	52.91	49.66	50.98	51.78	50.13	50.41	51.02
122. child initiated personal contacts which were accompanied by teacher warmth	49.76	49.85	51.76	50.91	47.96	49.06	49.87	49.28	50.24
123. child initiated personal contacts which were accompanied by negative teacher reaction	52.59	49.43	47.78 *	50.16	50.94	47.91	48.49	51.00	47.95
124. child initiated personal contacts accompanied by teacher reward	49.37	49.78	49.26	49.49	49.73	50.13	50.51	49.68	50.10
125. child initiated contacts which were tattles	53.27	49.54	46.64 ***	52.71	52.14	46.83 **	52.27	50.20	46.04 ***
126. child initiated tattles which were rejected	53.00	49.26	44.44 *	52.00	48.69	49.30	52.83	48.17	49.20
127. child initiated tattles which were approved	47.00	50.74	55.57 *	48.00	51.31	50.70	47.17	51.83	50.80
128. child initiated contacts which were social	52.25	49.51	49.04	50.74	48.92	50.86	49.66	49.25	49.26

Proportion of:	<u>Calm</u>			<u>Careful</u>			<u>Mature</u>		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
129. child initiated social contacts which were refused	52.06	48.75	48.89	49.53	49.12	50.69	49.66	50.31	49.05
130. child initiated social contacts which were given brief feedback	47.36	50.32	51.41	51.33	48.94	50.89	51.53	50.21	51.34
131. child initiated social contacts which were given long feedback	52.53	50.23	48.89	49.17	51.34	49.04	48.92	49.77	48.88
132. work contacts (private and public) receiving teacher praise	48.79	50.04	49.42	51.05	50.53	48.78	51.50	50.14	48.58
133. work contacts (private and public) receiving teacher criticism	53.88	50.49	46.91 ***	51.83	48.92	47.95 *	53.23	50.08	47.47 **
134. all teacher afforded housekeeping and child initiated housekeeping and personal contacts receiving teacher rewards	49.69	49.36	50.35	48.96	49.52	49.92	49.30	49.70	50.69
135. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a positive teacher reaction	49.17	49.65	52.47	49.00	49.13	49.03	49.88	49.41	50.03
136. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a negative teacher reaction	49.96	49.12	47.38	50.11	50.97	48.76	49.59	50.25	48.34
137. dyadic contacts receiving a negative teacher reaction	53.21	49.89	46.52 ***	51.07	49.73	47.84	51.52	50.73	47.14 *

Proportion of:	Calm			Careful			Mature		
	Low Medium High			Low Medium High			Low Medium High		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
138. dyadic contacts receiving a positive teacher reaction	46.50	50.36	52.29 **	48.40	50.48	49.75	50.27	48.89	50.42
Number of:									
139. response opportunities per child	50.64	50.32	50.70	49.55	49.65	49.78	49.15	49.89	49.33
140. small group response opportunities per child	50.27	50.38	50.13	51.69	49.47	48.39	50.40	50.48	48.89
141. general class response opportunities per child	51.17	49.88	51.03	48.88	49.64	51.71	48.63	49.37	51.36
142. teacher afforded contacts per child	54.50	49.34	48.62 **	55.07	48.74	48.88 ***	54.50	48.69	48.11 ***
143. teacher afforded work contacts per child	53.93	49.69	48.71 **	54.93	49.87	47.79 ***	55.45	49.39	48.19 ***
144. routine teacher afforded housekeeping contacts	50.70	48.89	50.64	49.50	47.45	52.51 **	48.84	49.60	49.64
145. routine teacher afforded personal contacts	54.75	50.23	47.78 ***	53.86	49.78	48.42 **	53.97	48.38	49.07 ***
146. routine teacher afforded social contacts	52.11	49.59	50.48	52.17	49.65	49.31	52.16	48.68	49.31 *
147. behavior related contacts	59.25	49.66	44.29 ***	57.88	49.08	45.23 ***	54.95	49.85	45.26 ***
148. times a teacher appointed a monitor	50.95	48.24	51.35	50.50	49.09	50.81	48.94	49.17	51.88
149. times a teacher held up a child's behavior as a good example for the rest of the class to follow	50.73	49.37	51.04	52.03	49.73	50.45	50.61	49.82	50.57

Number of:	Calm			Careful			Mature			
	Low	Medium	High	p	Low	Medium	High	p	Low	Medium
150. times a teacher held up a child's behavior as a bad example	51.36	49.21	48.90	*	51.62	48.75	49.48	**	50.56	49.52
151. times a teacher flattered a child	49.00	49.77	49.90		50.21	49.05	50.18		49.47	49.73
152. times a teacher displayed physical affection toward a child	51.86	49.52	48.83		54.12	49.60	48.95	**	52.00	50.07
153. times a teacher engaged in some other type of behavior coded in the Adult Critical Incidents section	50.66	50.51	49.38		48.72	49.49	50.13		48.45	50.32
154. child initiated contacts per child	54.05	49.90	48.01	**	53.38	47.65	49.96	**	51.74	49.66
155. child initiated work contacts per child	52.02	49.59	49.75		52.41	47.36	50.18	**	51.47	48.77
156. child initiated approval seeking contacts per child	53.00	49.60	48.43	*	51.48	48.39	49.62		51.66	49.54
157. child initiated housekeeping contacts per child	50.09	50.13	48.91		49.91	48.25	49.99		48.68	49.83
158. child initiated personal contacts per child	53.18	50.26	48.35	*	52.26	49.34	49.42		50.48	51.02
159. teacher afforded work praise contacts	49.23	50.10	49.06		51.45	50.08	48.62		51.89	49.84
160. teacher afforded work criticism contacts	53.66	50.54	46.94	***	51.52	49.19	47.96	*	52.26	50.30
161. teacher afforded positive evaluations	50.80	49.46	51.43		49.69	48.62	50.14		50.27	49.24

Number of:	<u>Calm</u>			<u>Careful</u>			<u>Mature</u>		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
162. teacher afforded negative evaluations	50.75	49.32	47.62	50.36	50.63	48.38	48.89	50.37	48.51
163. teacher afforded contacts which served as rewards	50.43	48.99	49.46	50.02	49.04	49.23	50.06	49.43	50.25
164. dyadic contacts per child	57.45	49.54	46.30 ***	56.31	48.05	47.43 ***	53.89	49.28	46.46 ***

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Table F-2. Group Means for Classroom Observation Variables for
Students Perceived Consistently on the Achieving, Creative, and Persistent Scales

Proportion of:	Achieving			Creative			Persistent		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
1. dyadic contacts which were response opportunities	45.97	51.25	51.72 ***	44.79	50.04	53.63 ***	45.70	51.96	52.24 ***
2. response opportunities occurring in small groups	51.43	51.54	48.14 *	53.53	51.06	47.63 *	49.35	51.61	47.49 *
3. response opportunities occurring in general class	48.57	48.47	51.86 *	46.47	48.95	52.37 *	50.65	48.39	52.53 *
<u>Small Group Data</u>									
4. small group response opportunities given non-volunteers	51.73	50.57	47.11	54.13	52.76	46.25 **	50.93	51.52	46.67
5. non-volunteers called on in small groups given praise	49.47	51.25	48.70	50.76	49.14	50.48	49.92	49.21	51.90
6. non-volunteers called on in small groups given criticism	50.26	49.46	49.13	50.71	49.88	49.40	49.19	49.77	49.33
7. small group response opportunities given volunteers	48.68	48.42	52.56	48.22	49.28	52.78	48.23	50.38	53.65 *
8. volunteers called on in small groups given praise	50.68	51.22	49.64	50.38	51.49	49.23	51.37	50.53	49.53
9. volunteers called on in small groups given criticism	49.50	50.67	49.43	49.31	50.82	49.33	51.31	50.67	49.23
10. small group response opportunities given waving volunteers	52.49	48.45	50.98	52.48	48.41	49.81 *	54.23	48.37	50.25 **

Proportion of:	Achieving			Creative			Persistent		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
11. waving volunteers called on in small group given praise	50.00	50.00	50.00	Insufficient Data			50.00	50.00	50.00
12. waving volunteers called on in small group given criticism	50.00	50.00	50.00	Insufficient Data			50.00	50.00	50.00
13. small group response opportunities given to called-out answers	49.02	51.20	49.16	46.65	48.59	49.53	49.27	48.92	49.45
14. called-out answers in small groups given praise	49.32	52.66	47.68	49.64	52.27	47.89	51.71	50.35	47.54
15. called-out answers in small groups given criticism	49.22	50.96	50.39	49.00	49.97	48.63	48.35	49.45	52.14
16. small group response opportunities given praise	48.90	52.72	49.38	51.87	49.59	49.56	49.87	50.21	49.20
17. small group response opportunities given criticism	48.73	49.97	49.33	48.74	49.04	48.25	48.90	49.28	50.07

General Class Data

18. general class response opportunities given non-volunteers	53.42	49.73	48.41 **	55.21	49.99	45.92 ***	52.08	49.62	48.12
19. non-volunteers called on in general class given praise	51.53	49.01	49.25	52.64	51.18	48.81	53.77	49.35	49.57 *
20. non-volunteers called on in general class given criticism	49.98	49.63	49.86	48.73	50.74	49.24	51.57	48.85	50.20

Proportion of:	Achieving			Creative			Persistent		
	Low Medium High			Low Medium High			Low Medium High		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
21. general class response opportunities given volunteers	48.16	48.85	52.30 *	49.15	49.78	52.29	47.20	50.86	53.57 ***
22. volunteers given praise in general class	50.54	51.21	49.13	46.77	51.00	49.31	49.40	51.39	48.58
23. volunteers given criticism in general class	48.80	50.18	48.94	48.87	49.81	50.15	49.00	50.23	49.06
24. general class response opportunities given waving volunteers	50.31	49.87	49.69	48.00	48.47	48.59	50.57	49.89	49.46
25. waving volunteers given praise in general class	49.00	50.77	50.00	Insufficient Data			48.89	50.00	50.00
26. waving volunteers given criticism in general class	50.00	50.00	50.00	Insufficient Data			50.00	50.00	50.00
27. general class response opportunities given to called-out answers	49.01	50.49	49.51	46.42	49.07	52.10 *	51.14	49.56	49.36
28. called-out answers in general class given praise	48.30	49.96	50.75	48.20	49.68	50.46	49.64	50.04	51.55
29. called-out answers in general class given criticism	49.74	49.62	49.69	48.80	50.03	52.13	52.09	50.33	49.64
30. general class response opportunities given praise	49.43	50.87	50.15	48.91	50.83	50.73	50.04	50.10	48.47
31. general class response opportunities given criticism	48.40	50.45	48.76	49.21	50.59	48.76	50.31	49.97	49.00

Total Response Opportunities

Proportion of:

	<u>Achieving</u>			<u>Creative</u>			<u>Persistent</u>		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
32. response opportunities in which volunteers, waving volunteers, and called-out answers received praise	49.11	51.26	50.23	47.67	50.35	50.40	48.90	50.49	48.62
33. response opportunities in which volunteers; waving volunteers, and called-out answers received criticism	48.26	50.49	49.11	49.22	49.65	49.88	49.25	50.65	49.55
34. response opportunities in which non-volunteers received praise	51.47	50.27	49.52	54.25	50.70	49.98	51.36	49.10	48.92
35. response opportunities in which non-volunteers received criticism	49.57	49.87	49.18	48.92	50.29	48.96	51.11	48.95	49.47
36. dyadic contacts which were teacher afforded	51.28	50.11	50.13	56.03	50.82	49.06 **	50.59	48.68	50.76
37. public and private work contacts which were private	53.67	49.23	48.34 **	55.21	49.90	48.02 **	53.16	47.82	48.86 **
38. all public and private work contacts, including approval seeking which were private	53.72	49.15	48.27 ***	54.89	49.95	47.93 **	53.65	47.85	48.65 **
39. all dyadic contacts (excluding behavior) which were private non-academic	52.89	47.83	50.35 **	54.53	49.70	48.24	52.46	48.75	48.76 *
40. teacher afforded contacts which were work related	52.04	50.33	48.70	51.61	50.64	49.81	51.87	50.36	47.99

Proportion of:	Achieving			Creative			Persistent		
	Low Medium High			Low Medium High			Low Medium High		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
41. teacher afforded work contacts given praise	50.21	50.50	48.59	50.19	51.03	49.18	50.46	50.37	49.01
42. teacher afforded work contacts given criticism	51.66	49.57	48.99	54.11	48.51	48.82 **	54.54	50.12	47.32 ***
43. teacher afforded work contacts in which child has a positive reaction	50.25	50.15	49.44	48.59	51.29	48.90	49.31	49.83	50.18
44. teacher afforded work contacts in which child has a negative reaction	51.03	49.38	49.05	51.59	49.07	49.56	52.87	49.89	48.76 *
45. teacher afforded work contacts which were observations of work	49.13	50.27	49.78	48.68	49.61	51.54	48.48	50.81	49.06
46. teacher afforded work contacts which were brief	50.59	50.58	50.44	48.61	50.87	48.22	50.39	49.51	50.31
47. teacher afforded work contacts which were long	49.69	49.56	49.24	51.86	49.41	51.28	50.46	50.23	50.52
48. teacher afforded contacts which were housekeeping	46.71	49.66	51.83 **	46.21	49.02	50.98 *	46.41	49.19	52.87 ***
49. teacher afforded housekeeping contacts which were routine	51.08	49.14	49.95	52.00	48.99	50.00	50.70	51.08	49.48
50. teacher afforded housekeeping contacts in which child received thanks	49.30	51.11	49.14	47.97	50.73	48.56	49.41	48.88	48.35

Proportion of:	Achieving			Creative			Persistent		
	Low Medium High			Low Medium High			Low Medium High		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
51. teacher afforded housekeeping contacts which served as rewards	49.27	49.20	50.64	48.91	50.14	50.63	49.76	49.29	51.78
52. teacher afforded contacts which were personal	50.79	49.52	50.09	52.03	49.97	49.09	51.04	50.85	49.87
53. teacher afforded personal contacts which were routine	51.83	49.46	51.15	49.69	49.66	51.50	49.18	50.61	51.27
54. teacher afforded personal contacts to which child responded with a positive reaction	48.38	51.48	49.19	49.50	51.08	49.83	49.15	50.22	49.85
55. teacher afforded personal contacts to which child responded with a negative reaction	49.38	50.11	49.81	50.58	49.71	48.50	52.21	49.68	49.00
56. teacher afforded contacts which were social	50.56	49.46	50.23	50.39	50.77	51.81	50.37	49.70	50.36
57. teacher afforded social contacts which were routine	54.68	48.70	47.11 *	56.00	48.42	50.47	54.85	48.92	48.93
58. teacher afforded social contacts to which child responded with a positive reaction	46.63	50.70	51.94	45.20	51.04	48.60	46.92	50.36	51.20
59. teacher afforded social contacts to which child responded with a negative reaction	48.58	51.13	50.78	48.20	50.33	51.73	48.15	51.28	49.80

Behavior Related Contacts

Proportion of:

		<u>Achieving</u>			<u>Creative</u>			<u>Persistent</u>		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
60.	dyadic contacts which were behavioral contacts	52.89	49.59	47.20 ***	52.13	49.83	48.00	55.85	50.27	45.01 ***
61.	behavioral contacts which were typical misbehaviors (i.e., individually inappropriate, social chat, disruptive, and deliberate trouble making)	51.06	50.03	49.61	51.53	49.51	50.12	50.30	50.79	48.91
62.	typical misbehaviors (see #61) which were non-disruptive (i.e., individually inappropriate and social chat)	48.81	50.57	51.20	48.67	48.86	52.31	47.57	50.41	50.82
63.	typical misbehaviors (see #61) which were disruptive (i.e., disruptive and deliberate trouble making)	51.19	49.43	48.80	51.33	51.14	47.69	52.43	49.59	49.18
64.	behavioral contacts which represented aggression toward the teacher (i.e., griping and sassing/defying)	49.62	49.98	49.43	50.39	49.27	49.98	53.17	50.30	48.08 *
65.	behavioral contacts which represented aggression toward peers (i.e., bossing, bullying, verbal and physical aggression)	49.68	49.44	49.80	49.25	49.66	47.35	51.04	48.83	48.77
66.	behavioral contacts which represented poor coping behavior or emotional over-reaction (crying and pouting/sulking)	49.90	49.48	49.91	49.03	50.06	50.40	50.56	49.82	49.86
67.	behavioral contacts which were non-interactive, anti-social misbehaviors (cheating + sleeping + vomiting)	51.90	50.38	48.40 *	49.31	51.04	47.90	49.85	49.72	48.97

Proportion of:	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
68. behavioral contacts which represented behavioral praise	49.35	49.10	51.79	48.00	50.11	51.67	49.17	49.62	52.07
69. behavioral contacts responded to with non-verbal intervention	50.07	50.42	49.93	50.33	49.80	49.54	49.89	48.12	50.01
70. behavioral contacts responded to with management interventions	50.07	50.11	50.23	50.28	49.86	49.50	50.00	50.84	49.38
71. behavioral contacts responded to with warning interventions	51.24	49.04	47.69	51.22	48.04	48.85	52.04	50.11	47.70 *
72. behavioral contacts responded to with threat interventions	50.93	50.25	49.85	48.11	49.69	50.58	52.33	49.89	49.15
73. behavioral contacts responded to with criticism	51.03	50.79	48.00	52.17	50.39	49.12	50.83	49.85	47.07 *
74. behavioral contacts which were of a negative nature	51.39	50.89	47.32 *	52.31	49.52	47.43	50.65	50.66	46.56 *
75. behavioral contacts in which child responds by being cowed	49.46	50.13	49.33	50.56	49.26	50.00	50.37	50.17	49.97
76. behavioral contacts in which child responds by being sullen	50.29	51.61	47.57 *	49.08	50.56	49.83	52.06	50.78	47.63 *
77. behavioral contacts and adult critical incidents which were positively reinforced	50.13	49.83	51.48	49.22	50.71	49.92	48.93	49.54	51.85
78. misbehaviors coded to which the teacher responded	51.10	51.03	49.49	51.00	50.34	49.69	48.96	51.03	49.21

Proportion of:	<u>Achieving</u>			<u>Creative</u>			<u>Persistent</u>		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
79. typical misbehaviors (see #6) disciplined by management	49.55	49.88	50.92	50.33	50.66	50.71	49.72	49.92	51.61
80. typical misbehaviors (see #61) disciplined by warnings	51.03	48.35	49.06	49.44	47.16	49.48	51.30	51.04	47.47
81. typical misbehaviors (see #61) disciplined by threat or criticism	50.94	50.70	48.46	51.22	51.12	49.98	50.24	50.15	47.39
82. typical, non-disruptive misbehaviors (see #62) disciplined by management	49.84	49.51	51.22	51.17	50.10	50.40	50.09	49.64	51.74
83. typical, non-disruptive misbehaviors (see #62) disciplined by warnings	50.79	48.61	49.12	48.39	47.85	50.32	51.62	50.92	47.38 *
84. typical, non-disruptive misbehaviors (see #62) disciplined by threat or criticism	50.70	51.09	49.31	51.61	51.39	50.09	49.40	51.30	48.11
85. typical, disruptive misbehaviors (see #63) disciplined by management	49.26	50.64	49.27	46.30	51.83	48.73	48.72	49.05	49.80
86. typical, disruptive misbehaviors (see #63) disciplined by warnings	51.08	48.16	52.04	52.13	49.83	48.73	48.72	49.05	49.80
87. typical, disruptive misbehaviors (see #63) disciplined by threat or criticism	50.89	50.20	47.81	50.00	48.29	50.47	52.17	48.14	48.35
88. misbehaviors related to aggression toward teacher (see #64) disciplined by management	51.64	51.00	51.27	Insufficient Data			Insufficient Data		

Proportion of:	<u>Achieving</u>			<u>Creative</u>			<u>Persistent</u>		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
89. misbehaviors related to aggression toward teacher (see #64) disciplined by warnings	50.45	47.17	49.09	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data
90. misbehaviors related to aggression toward teacher (see #64) disciplined by threat or criticism	46.55	54.83	48.27	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data
91. misbehaviors related to peer aggression (see #65) disciplined by management	50.00	50.29	50.00	Insufficient Data	Insufficient Data	Insufficient Data	50.69	50.25	49.57
92. misbehaviors related to peer aggression (see #65) disciplined by warnings	51.06	46.52	50.21	Insufficient Data	Insufficient Data	Insufficient Data	49.44	47.35	53.57
93. misbehaviors related to peer aggression (see #65) disciplined by threat or criticism	52.72	48.81	49.14	Insufficient Data	Insufficient Data	Insufficient Data	54.19	47.40	47.00
94. poor coping behaviors (see #66) disciplined by management	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data
95. poor coping behaviors (see #66) disciplined by warnings	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data
96. poor coping behaviors (see #66) disciplined by threat or criticism	insufficient Data	insufficient Data	insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data

Child Initiated Contacts

Proportion of:

	<u>Achieving</u>			<u>Creative</u>			<u>Persistent</u>		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
97. dyadic contacts which were child initiated	49.88	49.44	51.17	48.82	49.08	50.44	48.07	49.55	51.79
98. child initiated contacts which were work related	50.03	50.84	49.08	50.63	48.53	51.85	49.15	49.24	51.15
99. child initiated work contacts which were refused	51.25	49.53	47.89 *	51.29	49.38	48.70	50.43	49.50	48.52
100. child initiated work contacts receiving brief feedback	48.14	50.58	51.69 *	46.92	51.36	48.77	49.74	49.98	51.99
101. child initiated work contacts receiving long feedback	51.97	49.34	49.32	52.82	48.53	51.50	50.26	50.50	48.44
102. child initiated work contacts receiving praise	50.58	49.39	49.07	51.42	50.20	51.09	52.43	49.12	48.88
103. child initiated work contacts receiving criticism	49.75	49.65	50.99	48.92	50.29	49.83	49.93	50.52	49.60
104. child initiated work contacts accompanied by teacher impatience	50.15	49.34	48.87	50.42	48.53	50.33	51.81	50.24	47.64 *
105. child initiated contacts which were approval seeking	50.49	50.05	49.49	48.03	51.25	48.80	51.35	50.14	48.97
106. child initiated approval seeking contacts which were refused	48.66	50.27	49.96	50.67	49.59	50.19	49.93	51.02	48.88
107. child initiated approval seeking contacts which were given feedback	51.41	49.63	50.04	49.36	50.40	49.56	50.10	49.00	51.03

Proportion of:	Achieving			Creative			Persistent		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
108. child initiated approval seeking contacts which were praised	48.13	50.27	52.28	51.47	48.69	50.56	50.77	50.26	51.44
109. child initiated approval seeking contacts which were criticized	51.18	48.70	49.76	48.53	49.52	48.74	49.77	50.29	48.88
110. child initiated contacts which were either work or approval seeking contacts	50.46	50.79	48.88	50.00	49.07	51.56	49.98	49.16	50.69
111. child initiated work or approval seeking contacts which were praised	50.75	49.73	49.84	52.66	50.17	50.39	54.28	49.12	49.45 **
112. child initiated work or approval seeking contacts which were criticized	49.81	49.34	51.20	48.37	50.40	49.52	49.56	50.49	49.69
113. child initiated contacts which were housekeeping	49.08	50.00	51.22	49.37	49.76	52.07	47.93	50.98	49.60
114. child initiated housekeeping contacts which were refused	51.32	50.86	47.88	50.50	50.20	49.63	52.95	50.62	48.87
115. child initiated housekeeping contacts which were approved	48.56	49.02	52.12	49.24	49.76	50.20	46.71	49.27	51.13
116. child initiated housekeeping contacts receiving teacher thanks	49.92	50.10	49.45	48.17	50.98	50.56	50.95	51.78	47.13
117. child initiated housekeeping contacts receiving teacher reward	48.97	49.83	50.59	49.00	50.07	50.25	48.82	50.05	49.00
118. child initiated housekeeping contacts receiving teacher reward or than	49.70	49.97	49.45	48.00	51.00	50.03	50.50	50.89	46.79

Proportion of:	<u>Achieving</u>			<u>Creative</u>			<u>Persistent</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
119. child initiated contacts which were personal	50.65	49.16	50.56	50.08	49.48	50.39	51.09	50.36	49.17
120. child initiated personal contacts which were refused	50.71	50.53	49.11	47.68	50.38	50.21	50.21	49.75	48.34
121. child initiated personal contacts which were approved	49.11	49.37	51.00	52.22	49.64	50.10	49.83	50.20	51.84
122. child initiated personal contacts which were accompanied by teacher warmth	51.16	49.76	50.10	48.71	49.26	49.26	52.51	48.21	50.08
123. child initiated personal contacts which were accompanied by negative teacher reaction	50.55	50.12	48.68	49.14	50.64	49.00	48.67	50.45	47.87
124. child initiated personal contacts accompanied by teacher reward	49.36	49.76	50.01	49.54	49.27	50.52	50.63	49.80	50.10
125. child initiated contacts which were tattles	50.40	50.09	47.49	49.97	51.46	47.54	51.65	51.40	46.14 ***
126. child initiated tattles which were rejected	49.53	48.40	51.65	48.62	48.69	54.38	51.36	49.16	51.00
127. child initiated tattles which were approved	50.47	51.60	48.35	51.38	51.31	45.62	48.64	50.84	49.00
128. child initiated contacts which were social	49.11	48.46	51.63	49.08	49.98	48.35	50.81	48.85	51.18

Proportion of:	Achieving			Creative			Persistent		
	Low Medium High p			Low Medium High p			Low Medium High p		
	Low	Medium	High p	Low	Medium	High p	Low	Medium	High p
129. child initiated social contacts which were refused	47.91	50.55	49.41	49.11	48.98	47.58	49.09	49.95	50.02
130. child initiated social contacts which were given brief feedback	50.67	51.07	49.53	51.42	51.06	49.97	52.03	49.69	50.98
131. child initiated social contacts which were given long feedback	51.05	48.25	51.43	42.89	49.55	51.81	48.37	50.31	48.98
132. work contacts (private and public) receiving teacher praise	50.31	50.67	48.97	51.89	50.32	49.13	52.89	49.37	48.03
133. work contacts (private and public) receiving teacher criticism	51.18	49.67	49.77	53.42	49.20	48.52 *	54.06	49.70	48.26
134. all teacher afforded housekeeping and child initiated housekeeping and personal contacts receiving teacher rewards	48.69	49.74	50.47	48.08	50.04	51.56	49.91	49.31	51.35
135. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a positive teacher reaction	49.97	50.55	49.40	47.62	50.58	49.44	50.65	48.88	50.46
136. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a negative teacher reaction	49.67	50.04	48.80	49.09	50.28	49.10	50.33	49.69	47.81
137. dyadic contacts receiving a negative teacher reaction	50.38	49.97	49.19	51.79	49.51	48.35	52.50	49.88	47.83 **

	Proportion of:	Achieving			Creative			Persistent		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
138.	dyadic contacts receiving a positive teacher reaction	49.21	51.05	49.53	49.82	50.22	50.22	51.04	49.31	49.68
Number of:										
139.	response opportunities per child	48.57	50.03	50.51	45.37	48.74	52.89 ***	48.61	51.50	50.11
140.	small group response opportunities per child	50.90	50.85	48.44	49.40	49.57	49.44	49.94	51.76	47.76 *
141.	general class response opportunities per child	47.01	48.81	52.83 ***	43.42	48.09	55.57 ***	49.67	49.60	52.77
142.	teacher afforded contacts per child	53.97	48.86	48.53 ***	54.05	50.23	49.02 *	55.02	48.74	47.92 ***
143.	teacher afforded work contacts per child	54.56	49.09	48.16 ***	54.26	50.24	49.48 *	55.61	49.12	47.33 ***
144.	routine teacher afforded housekeeping contacts	48.19	49.66	51.19	47.95	49.62	50.06	48.20	49.41	51.17
145.	routine teacher afforded personal contacts	53.24	48.50	49.81 **	54.16	49.70	49.00 *	52.87	49.95	48.91 *
146.	routine teacher afforded social contacts	53.40	49.53	48.27 ***	53.45	50.10	51.47	53.28	49.04	48.97 **
147.	behavior related contacts	53.60	49.18	46.49 ***	50.16	49.93	49.35	56.80	49.75	44.96 ***
148.	times a teacher appointed a monitor	48.89	49.89	50.93	47.79	49.76	51.06	48.31	48.80	50.97
149.	times a teacher held up a child's behavior as a good example for the rest of the class to follow	50.08	49.97	50.31	50.53	48.75	50.46	50.65	49.70	50.22

Number of:	<u>Achieving</u>			<u>Creative</u>			<u>Persistent</u>		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
150. times a teacher held up a child's behavior as a bad example	50.97	48.98	49.41	51.53	49.66	49.78	51.82	49.24	49.49 *
151. times a teacher flattered a child	49.67	49.87	50.03	49.08	50.61	49.83	49.13	49.65	50.41
152. times a teacher displayed physical affection toward a child	52.19	49.27	48.57 *	51.63	49.89	49.30	51.65	48.88	48.77 *
153. times a teacher engaged in some other type of behavior coded in the Adult Critical Incidents section	49.65	49.75	50.92	49.79	49.19	48.89	48.11	50.88	49.83
154. child initiated contacts per child	51.60	49.11	49.72	48.34	48.71	50.26	51.37	49.72	50.05
155. child initiated work contacts per child	51.72	49.61	49.27	48.16	48.27	50.96	51.02	49.22	50.60
156. child initiated approval seeking contacts per child	51.06	49.10	50.23	48.21	50.34	50.20	51.18	49.95	50.11
157. child initiated housekeeping contacts per child	50.08	49.64	50.16	48.63	49.22	52.00	48.83	50.16	50.04
158. child initiated personal contacts per child	51.06	48.95	50.16	49.55	48.68	50.15	50.98	50.27	49.17
159. teacher afforded work praise contacts	51.35	50.08	48.76	52.89	50.33	50.50	52.52	50.03	48.05
160. teacher afforded work criticism contacts	51.10	49.88	49.26	52.37	48.82	48.93 *	53.78	50.04	47.61 ***
161. teacher afforded positive evaluations	49.63	49.98	50.10	47.66	49.76	49.93	51.18	49.23	51.20

Number of:	<u>Achieving</u>			<u>Creative</u>			<u>Persistent</u>		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
162. teacher afforded negative evaluations	49.60	49.85	48.67	48.74	49.99	49.74	50.76	50.52	47.73
163. teacher afforded contacts which served as rewards	49.38	49.36	50.70	48.26	49.82	50.59	50.82	49.08	50.83
164. dyadic contacts per child	52.96	48.81	47.92	** 48.63	43.14	50.07	54.56	49.61	47.37 ***

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table F-3. Group Means for Classroom Observation Variables for
Students Perceived Consistently on the Happy and Attractive Scales

	Happy				Attractive			
	Low	Medium	High	p	Low	Medium	High	p
Proportion of:								
1. dyadic contacts which were response opportunities	45.41	50.92	51.86	**	47.98	50.45	51.15	
2. response opportunities occurring in small groups	51.58	50.43	46.29	*	51.67	49.35	50.64	
3. response opportunities occurring in general class	48.42	49.57	53.71	*	48.33	50.65	49.38	
<u>Small Group Data</u>								
4. small group response opportunities given non-volunteers	52.83	52.71	47.81		53.86	50.02	47.23	*
5. non-volunteers called on in small groups given praise	49.95	48.33	52.62		51.81	48.17	51.64	
6. non-volunteers called on in small groups given criticism	51.27	48.89	49.14		49.23	51.17	49.21	
7. small group response opportunities given volunteers	45.04	47.27	52.89	**	47.43	50.43	52.69	
8. volunteers called on in small groups given praise	52.18	50.54	48.68		48.50	50.05	47.82	
9. volunteers called on in small groups given criticism	49.55	50.51	51.55		49.54	49.66	52.32	
10. small group response opportunities given waving volunteers	52.83	48.98	48.67	*	51.57	48.72	52.59	

	<u>Happy</u>			<u>Attractive</u>		
	Low	Medium	High	Low	Medium	High

Proportion of:

11. waving volunteers called on in small group given praise
12. waving volunteers called on in small group given criticism
13. small group response opportunities given to called-out answers
14. called-out answers in small groups given praise
15. called-out answers in small groups given criticism
16. small group response opportunities given praise
17. small group response opportunities given criticism

General Class Data

18. general class response opportunities given non-volunteers
19. non-volunteers called on in general class given praise
20. non-volunteers called on in general class given criticism

Insufficient Data

Insufficient Data

46.29 50.69 50.34

48.92 48.45 51.95

48.83 49.29 52.64

52.21 48.48 49.69

48.43 49.94 52.69

50.34 51.80 49.50

50.86 50.45 48.59

49.14 50.23 50.84

Insufficient Data

Insufficient Data

50.17 49.76 50.89

52.53 51.09 47.13

48.07 50.79 53.38

53.46 49.18 48.48

50.17 49.22 53.63

52.93 49.88 49.52

58.00 48.98 48.24 ***

51.08 49.31 49.80

Proportion of:	Happy			Attractive		
	Low	Medium	High p	Low	Medium	High p
21. general class response opportunities given volunteers	44.03	51.01	50.84 **	51.11	48.41	49.85
22. volunteers given praise in general class	45.94	49.12	49.70	48.87	50.22	49.45
23. volunteers given criticism in general class	49.90	49.92	50.21	49.00	50.71	50.07
24. general class response opportunities given waving volunteers	50.57	48.92	50.22	49.61	50.79	52.31
25. waving volunteers given praise in general class	50.00	50.00	50.00	50.00	49.29	50.00
26. waving volunteers given criticism in general class	50.00	50.00	50.00	50.00	50.00	50.00
27. general class response opportunities given to called-out answers	54.37	48.49	50.72 *	50.50	48.88	50.04
28. called-out answers in general class given praise	52.27	49.31	49.38	48.46	50.30	49.25
29. called-out answers in general class given criticism	48.20	49.63	52.38	48.38	49.11	52.45
30. general class response opportunities given praise	52.17	49.77	48.68	47.50	51.07	48.10
31. general class response opportunities given criticism	49.37	49.88	50.76	47.66	50.77	51.35

Total Response Opportunities

Proportion of:

		Happy			Attractive		
		Low	Medium	High	Low	Medium	High
32.	response opportunities in which volunteers, waving volunteers, and called-out answers received praise	51.19	49.73	49.67	50.84	49.44	50.10
33.	response opportunities in which volunteers, waving volunteers, and called-out answers received criticism	47.72	50.51	52.31 *	47.73	50.80	52.54 *
34.	response opportunities in which non-volunteers received praise	53.61	49.77	48.51 *	51.04	50.55	47.62
35.	response opportunities in which non-volunteers received criticism	51.75	49.33	49.75	49.02	50.99	50.24
36.	dyadic contacts which were teacher afforded	52.68	50.90	48.31	52.17	49.33	48.00
37.	public and private work contacts which were private	53.92	49.67	48.31 **	52.38	49.14	49.23
38.	all public and private work contacts, including approval seeking which were private	53.97	49.52	48.53 **	52.30	49.28	49.31
39.	all dyadic contacts (excluding behavior) which were private non-academic	52.62	48.90	50.14	50.34	49.83	49.44
40.	teacher afforded contacts which were work related	52.62	51.23	48.88	52.53	49.83	50.27

Proportion of:	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
41. teacher afforded work contacts given praise	52.06	49.40	48.53	53.16	49.60	50.35
42. teacher afforded work contacts given criticism	55.66	48.65	48.51 ***	52.16	50.26	50.02
43. teacher afforded work contacts in which child has a positive reaction	50.26	49.11	49.55	50.96	51.08	49.67
44. teacher afforded work contacts in which child has a negative reaction	51.34	50.49	48.38	52.29	48.68	49.67
45. teacher afforded work contacts which were observations of work	46.31	51.23	49.30 *	49.69	50.57	49.90
46. teacher afforded work contacts which were brief	52.03	50.61	51.85	49.95	50.84	49.53
47. teacher afforded work contacts which were long	50.63	48.36	48.94	50.29	48.61	50.80
48. teacher afforded contacts which were housekeeping	47.32	48.91	52.35 *	46.09	49.69	51.41 **
49. teacher afforded housekeeping contacts which were routine	49.59	49.89	49.38	48.94	51.38	48.76
50. teacher afforded housekeeping contacts in which child received thanks	49.86	50.19	51.11	50.28	49.93	50.11

Proportion of:	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
51. teacher afforded housekeeping contacts which served as rewards	50.24	49.63	50.13	50.53	49.27	50.93
52. teacher afforded contacts which were personal	48.43	49.57	48.71	51.74	50.47	48.69
53. teacher afforded personal contacts which were routine	47.43	47.93	53.08	48.58	51.19	48.15
54. teacher afforded personal contacts to which child responded with a positive reaction	53.43	50.88	48.35	49.19	49.63	52.07
55. teacher afforded personal contacts to which child responded with a negative reaction	50.00	51.65	47.46	52.39	49.49	49.96
56. teacher afforded contacts which were social	48.03	50.36	52.35	47.85	50.69	48.98
57. teacher afforded social contacts which were routine	49.50	48.29	47.79	57.88	49.11	49.25
58. teacher afforded social contacts to which child responded with a positive reaction	51.50	51.17	52.21	43.88	50.41	48.75
59. teacher afforded social contacts to which child responded with a negative reaction	48.50	50.33	50.00	47.38	50.30	53.63

Behavior Related Contacts

Proportion of:

		Happy			Attractive		
		Low	Medium	High	Low	Medium	High
60.	dyadic contacts which were behavioral contacts	54.46	49.05	46.16 ***	50.60	51.02	47.90
61.	behavioral contacts which were typical misbehaviors (i.e., individually inappropriate, social chat, disruptive, and deliberate trouble making)	52.56	48.89	49.26	49.93	50.85	48.37
62.	typical misbehaviors (see #61) which were non-disruptive (i.e., individually inappropriate and social chat)	47.00	51.10	48.67	50.19	49.11	49.02
63.	typical misbehaviors (see #61) which were disruptive (i.e., disruptive and deliberate trouble making)	53.00	48.90	51.33	49.81	50.89	50.98
64.	behavioral contacts which represented aggression toward the teacher (i.e., griping and sassing/defying)	54.03	49.81	48.24 *	51.50	50.23	49.18
65.	behavioral contacts which represented aggression toward peers (i.e., bossing, bullying, verbal and physical aggression)	50.74	50.27	52.26	49.66	50.23	49.18
66.	behavioral contacts which represented poor coping behavior or emotional over-reaction (crying and pouting/sulking)	50.38	50.58	49.57	50.27	48.79	50.73
67.	behavioral contacts which were non-interactive, anti-social misbehaviors (cheating + sleeping + vomiting)	49.26	48.89	50.83	50.45	50.23	49.63

Proportion of:	Happy				Attractive			
	Low	Medium	High	p	Low	Medium	High	p
68. behavioral contacts which represented behavioral praise	48.12	49.47	52.33	*	48.91	48.87	52.18	
69. behavioral contacts responded to with non-verbal intervention	50.18	48.34	51.48		48.36	51.35	51.22	
70. behavioral contacts responded to with management interventions	48.53	50.68	50.22		49.55	49.51	47.78	
71. behavioral contacts responded to with warning interventions	54.47	49.44	46.84	***	53.50	50.97	47.94	*
72. behavioral contacts responded to with threat interventions	54.65	49.77	49.83	*	50.55	49.22	51.45	
73. behavioral contacts responded to with criticism	53.62	49.67	49.30		49.91	50.14	53.47	
74. behavioral contacts which were of a negative nature	52.00	50.48	46.88	*	51.64	50.22	49.48	
75. behavioral contacts in which child responds by being cowed	51.74	49.67	52.57		50.95	49.14	50.10	
76. behavioral contacts in which child responds by being sullen	53.74	49.83	47.13	**	51.02	50.91	50.76	
77. behavioral contacts and adult critical incidents which were positively reinforcing	46.77	50.82	51.31	*	50.20	49.06	50.63	
78. misbehaviors coded to which the teacher responded	48.50	50.45	49.37		50.36	49.41	51.65	

Proportion of:	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
79. typical misbehaviors (see #61) disciplined by management	47.18	51.18	51.11	49.70	49.53	47.40
80. typical misbehaviors (see #61) disciplined by warnings	53.12	49.26	47.24	52.56	50.54	48.28
81. typical misbehaviors (see #61) disciplined by threat or criticism	52.74	50.53	49.02	50.67	49.76	53.13
82. typical, non-disruptive misbehaviors (see #62) disciplined by management	48.15	51.08	51.98	49.44	49.45	47.59
83. typical, non-disruptive misbehaviors (see #62) disciplined by warnings	53.88	48.75	47.17	52.33	50.73	49.33
84. typical, non-disruptive misbehaviors (see #62) disciplined by threat or criticism	50.12	51.33	48.86	50.60	50.64	51.50
85. typical, disruptive misbehaviors (see #63) disciplined by management	46.96	49.24	48.41	49.85	50.57	50.33
86. typical, disruptive misbehaviors (see #63) disciplined by warnings	46.74	52.85	52.71	51.35	49.48	47.39
87. typical, disruptive misbehaviors (see #63) disciplined by threat or criticism	55.78	49.18	48.71	49.40	48.59	52.28
88. misbehaviors related to aggression toward teacher (see #64) disciplined by management	Insufficient Data			48.56	49.38	49.40

Proportion of:	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
89. misbehaviors related to aggression toward teacher (see #64) disciplined by warnings	Insufficient Data			49.00	51.62	47.80
90. misbehaviors related to aggression toward teacher (see #64) disciplined by threat or criticism	Insufficient Data			50.33	48.54	54.20
91. misbehaviors related to peer aggression (see #65) disciplined by management	50.30	51.86	45.10	48.73	50.71	47.13
92. misbehaviors related to peer aggression (see #65) disciplined by warnings	50.60	47.00	51.70	52.18	52.10	49.00
93. misbehaviors related to peer aggression (see #65) disciplined by threat or criticism	51.20	48.50	50.60	49.91	50.71	52.75
94. poor coping behaviors (see #66) disciplined by management	Insufficient Data			Insufficient Data		
95. poor coping behaviors (see #66) disciplined by warnings	Insufficient Data			Insufficient Data		
96. poor coping behaviors (see #66) disciplined by threat or criticism	Insufficient Data			Insufficient Data		

Child Initiated Contacts

Proportion of:

		Happy			Attractive		
		Low	Medium	High	Low	Medium	High
97.	dyadic contacts which were child initiated	48.46	49.26	53.16 *	49.72	49.40	51.71
98.	child initiated contacts which were work related	49.05	50.74	48.24	51.68	49.60	47.98
99.	child initiated work contacts which were refused	50.11	48.85	48.45	50.48	50.46	48.98
100.	child initiated work contacts receiving brief feedback	50.28	50.96	51.10	49.57	50.55	51.14
101.	child initiated work contacts receiving long feedback	49.22	49.25	49.51	50.91	49.26	49.41
102.	child initiated work contacts receiving praise	48.57	51.42	48.06	50.39	50.25	50.10
103.	child initiated work contacts receiving criticism	47.81	49.50	51.25	48.43	49.61	50.76
104.	child initiated work contacts accompanied by teacher impatience	50.22	49.60	48.98	51.24	48.58	51.04
105.	child initiated contacts which were approval seeking	50.03	50.14	50.80	49.43	51.37	49.98
106.	child initiated approval seeking contacts which were refused	49.30	50.62	49.43	48.40	49.81	50.94
107.	child initiated approval seeking contacts which were given feedback	50.70	49.45	50.41	51.68	50.18	48.69

Proportion of:	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
108. child initiated approval seeking contacts which were praised	50.65	49.32	53.66	52.90	48.75	49.81
109. child initiated approval seeking contacts which were criticized	48.80	50.14	48.86	48.90	48.73	51.42
110. child initiated contacts which were either work or approval seeking contacts	49.54	50.98	48.35	51.61	50.26	47.59
111. child initiated work or approval seeking contacts which were praised	49.65	51.45	50.31	51.76	50.42	50.14
112. child initiated work or approval seeking contacts which were criticized	47.51	49.46	51.35 *	48.13	49.54	51.88
113. child initiated contacts which were housekeeping	45.89	49.27	53.25 ***	48.11	49.29	50.63
114. child initiated housekeeping contacts which were refused	53.31	49.07	47.19	53.41	48.86	52.21
115. child initiated housekeeping contacts which were approved	46.77	50.93	52.76	46.19	51.14	47.71
116. child initiated housekeeping contacts receiving teacher thanks	50.15	49.50	48.70	52.00	49.29	49.00
117. child initiated housekeeping contacts receiving teacher reward	52.15	49.00	50.24	51.82	50.22	50.25
118. child initiated housekeeping contacts receiving teacher reward or thanks	53.38	48.85	48.84	51.47	50.12	48.21

Proportion of:	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
119. child initiated contacts which were personal	54.14	48.27	50.33 **	49.87	49.70	50.19
120. child initiated personal contacts which were refused	50.90	48.71	48.93	48.42	49.99	50.68
121. child initiated personal contacts which were approved	49.03	51.26	51.09	51.31	50.04	49.56
122. child initiated personal contacts which were accompanied by teacher warmth	50.37	50.15	49.63	47.42	49.54	49.85
123. child initiated personal contacts which were accompanied by negative teacher reaction	51.20	49.28	48.09	51.19	49.44	47.44
124. child initiated personal contacts accompanied by teacher reward	52.67	49.19	49.28 **	51.19	49.67	50.49
125. child initiated contacts which were tattles	49.49	50.91	50.16	49.66	51.23	50.33
126. child initiated tattles which were rejected	48.81	51.64	48.24	46.47	53.83	47.36 *
127. child initiated tattles which were approved	51.19	48.36	51.76	53.53	46.18	52.64 *
128. child initiated contacts which were social	49.70	49.94	51.73	49.13	50.22	51.35

	Proportion of:	Happy			Attractive		
		Low	Medium	High	Low	Medium	High
129.	child initiated social contacts which were refused	50.05	48.54	51.72	49.24	49.94	51.11
130.	child initiated social contacts which were given brief feedback	51.48	50.75	50.39	50.95	50.43	50.22
131.	child initiated social contacts which were given long feedback	47.10	49.95	48.33	48.76	49.23	49.69
132.	work contacts (private and public) receiving teacher praise	53.57	50.01	48.20 *	52.49	49.74	48.48
133.	work contacts (private and public) receiving teacher criticism	53.38	48.92	49.31 *	50.57	51.14	51.19
134.	all teacher afforded housekeeping and child initiated housekeeping and personal contacts receiving teacher rewards	53.18	49.17	49.84	50.07	49.86	50.72
135.	teacher afforded personal and social contacts and child initiated personal contacts accompanied by a positive teacher reaction	50.47	52.08	50.41	46.66	49.83	49.33
136.	teacher afforded personal and social contacts and child initiated personal contacts accompanied by a negative teacher reaction	50.26	50.32	47.24	51.80	49.89	47.67
137.	dyadic contacts receiving a negative teacher reaction	52.57	49.73	48.43	50.81 *	50.95	49.48

Proportion of:	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
138. dyadic contacts receiving a positive teacher reaction	52.46	51.02	49.41	50.94	49.61	49.75
Number of:						
139. response opportunities per child	46.43	49.48	51.23 *	47.15	50.17	52.25 *
140. small group response opportunities per child	47.68	50.16	48.15	49.34	48.86	51.63
141. general class response opportunities per child	48.11	48.87	54.08 **	47.21	50.57	50.94
142. teacher afforded contacts per child	53.35	49.27	48.76 *	52.55	48.76	48.81
143. teacher afforded work contacts per child	54.11	49.79	48.59 *	53.11	48.78	49.44 *
144. routine teacher afforded housekeeping contacts	48.46	48.77	51.78	46.77	49.50	50.33
145. routine teacher afforded personal contacts	49.19	49.54	48.92	52.87	50.31	48.00 *
146. routine teacher afforded social contacts	48.84	49.58	50.02	50.83	49.88	49.33
147. behavior related contacts	55.35	48.34	47.18 ***	50.96	50.09	48.98
148. times a teacher appointed a monitor	48.08	50.53	51.90	48.11	49.34	49.69
149. times a teacher held up a child's behavior as a good example for the rest of the class to follow	50.65	50.02	49.04	50.94	48.89	49.19

Number of:	Happy			Attractive		
	Low	Medium	High	Low	Medium	High
150. times a teacher held up a child's behavior as a bad example	48.97	49.22	49.06	49.02	50.63	48.85
151. times a teacher flattered a child	48.95	49.76	51.59	49.11	49.18	50.83
152. times a teacher displayed physical affection toward a child	51.30	49.03	49.59	51.60	49.31	49.58
153. times a teacher engaged in some other type of behavior coded in the Adult Critical Incidents section	48.76	48.85	50.65	50.19	49.36	49.42
154. child initiated contacts per child	49.08	48.34	52.53	50.45	49.19	52.27
155. child initiated work contacts per child	48.57	48.59	52.35	51.06	48.83	51.58
156. child initiated approval seeking contacts per child	50.05	49.33	51.86	49.45	50.38	51.48
157. child initiated housekeeping contacts per child	46.51	48.59	54.51	48.98	48.86	51.56
158. child initiated personal contacts per child	52.59	48.09	50.78	51.15	48.64	50.25
159. teacher afforded work praise contacts	51.03	49.50	50.37	50.81	49.73	50.85
160. teacher afforded work criticism contacts	52.03	49.03	49.90	50.13	50.33	52.37
161. teacher afforded positive evaluations	51.59	50.26	51.86	47.79	49.03	49.81

	Number of:	Happy			Attractive		
		Low	Medium	High	Low	Medium	High
162.	teacher afforded negative evaluations	52.03	49.23	48.18	51.43	49.07	47.65 *
163.	teacher afforded contacts which served as rewards	52.22	48.77	49.84	49.96	49.87	50.71
164.	dyadic contacts per child	51.46	48.16	50.57	50.09	49.50	51.17

 $p \leq .001$
 **
 $p \leq .01$
 *
 $p \leq .05$

Table F-4: Group Means for Classroom Observation Variables for Students Perceived Consistently on the Noticeable and Eye Contact Scales

Proportion of:	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
1. dyadic contacts which were response opportunities	50.93	48.94	50.91	45.34	48.77	53.20 **
2. response opportunities occurring in small groups	53.26	49.30	48.25 *	54.76	49.88	45.60 **
3. response opportunities occurring in general class	46.74	50.70	51.76 *	45.44	50.15	53.40 **
<u>Small Group Data</u>						
4. small group response opportunities given non-volunteers	52.35	49.82	46.32 *	54.21	51.11	48.38
5. non-volunteers called on in small groups given praise	53.27	49.08	50.68	49.12	48.47	51.67
6. non-volunteers called on in small groups given criticism	48.68	49.83	51.23	49.00	50.02	49.33
7. small group response opportunities given volunteers	47.38	50.14	52.53	46.79	48.37	53.95 *
8. volunteers called on in small groups given praise	54.00	50.94	49.08	49.11	50.42	48.56
9. volunteers called on in small groups given criticism	51.64	49.76	51.08	48.80	49.71	52.00
10. small group response opportunities given waving volunteers	49.69	48.53	50.09	49.53	48.93	50.71

Proportion of:	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
11. waving volunteers called on in small group given praise						
12. waving volunteers called on in small group given criticism						
13. small group response opportunities given to called-out answers	49.42	50.14	51.88	49.53	50.85	48.95
14. called-out answers in small groups given praise	53.36	49.26	51.75	46.54	48.12	49.07
15. called-out answers in small groups given criticism	48.00	51.23	53.67	48.77	49.21	51.93
16. small group response opportunities given praise	53.46	49.61	48.24	52.47	49.74	48.62
17. small group response opportunities given criticism	48.81	49.33	54.12	48.11	48.87	51.67
<u>General Class Data</u>						
18. general class response opportunities given non-volunteers	53.27	45.69	47.00	54.46	50.54	46.00
19. non-volunteers called on in general class given praise	50.93	47.28	49.10	49.13	45.11	47.96
20. non-volunteers called on in general class given criticism	50.71	49.78	48.93	51.96	49.00	48.50

Proportion of:	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
21. general class response opportunities given volunteers	48.55	51.21	48.89	46.08	50.57	52.26 *
22. volunteers given praise in general class	53.10	49.81	48.72	53.81	49.76	49.44
23. volunteers given criticism in general class	48.70	50.22	51.19	48.88	50.83	50.06
24. general class response opportunities given waving volunteers	48.73	48.47	51.47	51.08	49.21	52.77
25. waving volunteers given praise in general class	Insufficient Data			50.00	50.00	50.00
26. waving volunteers given criticism in general class	Insufficient Data			50.00	50.00	50.00
27. general class response opportunities given to called-out answers	46.67	49.89	56.07	48.35	48.46	52.43 ***
28. called-out answers in general class given praise	51.86	50.44	50.60	48.00	50.57	51.14
29. called-out answers in general class given criticism	47.43	47.69	52.34	51.67	48.77	50.43
30. general class response opportunities given praise	52.39	48.38	49.49	49.69	50.46	49.54
31. general class response opportunities given criticism	49.52	50.66	49.89	50.38	49.88	50.40

<u>Total Response Opportunities</u>		<u>Noticeable</u>			<u>Eye Contact</u>				
		Low	Medium	High	p	Low	Medium	High	p
Proportion of:									
32.	response opportunities in which volunteers, waving volunteers, and called-out answers received praise	53.74	48.26	50.04	**	53.14	49.28	50.23	
33.	response opportunities in which volunteers, waving volunteers, and called-out answers received criticism	48.24	50.51	53.31	*	48.34	50.14	52.63	
34.	response opportunities in which non-volunteers received praise	51.84	49.08	49.78		50.07	49.15	47.49	
35.	response opportunities in which non-volunteers received criticism	50.18	49.64	49.73		51.34	49.13	48.63	
36.	dyadic contacts which were teacher afforded	53.50	49.44	47.84	**	53.79	49.00	47.49	**
37.	public and private work contacts which were private	51.15	50.87	48.33		54.24	51.31	46.60	**
38.	all public and private work contacts, including approval seeking which were private	50.80	50.77	48.88		54.45	51.17	47.00	**
39.	all dyadic contacts (excluding behavior) which were private non-academic	49.75	50.71	51.07		53.79	50.82	48.63	
40.	teacher afforded contacts which were work related	51.98	50.25	49.89		50.79	51.10	50.09	

Proportion of:	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
41. teacher afforded work contacts given praise	50.95	49.07	50.31	54.21	49.06	49.69
42. teacher afforded work contacts given criticism	48.95	49.04	51.15	53.18	47.34	47.50 **
43. teacher afforded work contacts in which child has a positive reaction	50.05	50.30	48.50	49.21	50.23	49.34
44. teacher afforded work contacts in which child has a negative reaction	51.76	48.60	50.41	53.25	49.60	48.06 *
45. teacher afforded work contacts which were observations of work	51.18	49.91	49.37	45.93	52.36	49.31 *
46. teacher afforded work contacts which were brief	49.32	50.56	50.11	53.78	48.06	52.47 *
47. teacher afforded work contacts which were long	50.13	49.40	50.52	49.04	50.34	47.81
48. teacher afforded contacts which were housekeeping	48.03	49.11	50.25	49.28	49.21	51.97
49. teacher afforded housekeeping contacts which were routine	52.70	49.24	51.47	50.30	47.80	49.74
50. teacher afforded housekeeping contacts in which child received thanks	46.97	49.95	49.94	48.96	51.59	49.97

Proportion of:	<u>Noticeable</u>			<u>Eye Contact</u>		
	Low	Medium	High	Low	Medium	High
51. teacher afforded housekeeping contacts which served as rewards	49.79	50.80	47.71	50.65	51.24	49.81
52. teacher afforded contacts which were personal	50.48	51.11	49.39	49.55	49.72	48.00
53. teacher afforded personal contacts which were routine	48.57	50.74	50.97	49.35	50.85	51.39
54. teacher afforded personal contacts to which child responded with a positive reaction	50.35	48.67	49.36	52.15	49.66	50.67
55. teacher afforded personal contacts to which child responded with a negative reaction	52.26	50.49	48.97	49.35	49.73	47.72
56. teacher afforded contacts which were social	48.78	49.27	51.30	47.07	49.58	49.09
57. teacher afforded social contacts which were routine	59.80	46.47	49.56	Insufficient Data		
58. teacher afforded social contacts to which child responded with a positive reaction	41.00	52.89	50.78	Insufficient Data		
59. teacher afforded social contacts to which child responded with a negative reaction	48.80	51.21	49.50	Insufficient Data		

Behavior Related Contacts

Proportion of:

		<u>Noticeable</u>			<u>Eye Contact</u>		
		Low	Medium	High	Low	Medium	High
60.	dyadic contacts which were behavioral contacts	45.53	51.32	50.70	51.55	49.47	47.97
61.	behavioral contacts which were typical misbehaviors (i.e., individually inappropriate, social chat, disruptive, and deliberate trouble making)	48.44	50.93	50.76	51.16	48.79	50.09
62.	typical misbehaviors (see #61) which were non-disruptive (i.e., individually inappropriate and social chat)	52.31	50.79	49.07	48.54	50.10	47.90
63.	typical misbehaviors (see #61) which were disruptive (i.e., disruptive and deliberate trouble making)	47.69	49.21	50.93	51.46	49.90	52.10
64.	behavioral contacts which represented aggression toward the teacher (i.e., griping and sassing/defying)	49.28	48.98	52.27	51.48	49.02	48.03
65.	behavioral contacts which represented aggression toward peers (i.e., bossing, bullying, verbal and physical aggression)	51.47	48.44	52.42	49.44	50.43	51.47
66.	behavioral contacts which represented poor coping behavior or emotional over-reaction (crying and pouting/sulking)	49.72	49.38	49.98	48.44	50.37	50.75
67.	behavioral contacts which were non-interactive, anti-social misbehaviors (cheating + sleeping + vomiting)	49.86	49.82	48.98	55.60	49.36	49.53

**

Proportion of:	Noticeable				Eye Contact			
	Low	Medium	High	p	Low	Medium	High	p
68. behavioral contacts which represented behavioral praise	49.89	47.72	51.44	*	48.28	50.30	51.13	
69. behavioral contacts responded to with non-verbal intervention	48.08	50.25	52.71		49.56	48.48	51.44	
70. behavioral contacts responded to with management interventions	50.63	52.29	49.24		50.80	50.66	48.26	
71. behavioral contacts responded to with warning interventions	48.78	50.38	48.89		50.36	50.11	49.39	
72. behavioral contacts responded to with threat interventions	46.94	48.97	50.85	*	52.08	49.31	49.06	
73. behavioral contacts responded to with criticism	50.42	48.67	51.27		51.72	48.05	50.31	
74. behavioral contacts which were of a negative nature	49.59	52.45	48.90		52.70	49.18	46.37	
75. behavioral contacts in which child responds by being cowed	47.14	49.30	52.05	*	51.08	48.87	52.31	
76. behavioral contacts in which child responds by being sullen	48.42	48.86	53.05	*	50.84	48.70	51.34	
77. behavioral contacts and adult critical incidents which were positively reinforcing	50.83	49.31	48.75		51.04	50.74	50.73	
78. misbehaviors coded to which the teacher responded	49.48	51.55	50.56		51.74	49.52	47.22	

Proportion of:	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
79. typical misbehaviors (see #61) disciplined by management	51.35	51.41	49.00	50.42	51.33	48.69
80. typical misbehaviors (see #61) disciplined by warnings	48.94	49.62	48.98	48.42	50.24	49.38
81. typical misbehaviors (see #61) disciplined by threat or criticism	50.31	48.38	51.24	52.04	47.38	50.10
82. typical, non-disruptive misbehaviors (see #62) disciplined by management	51.55	50.83	49.59	51.57	50.78	49.37
83. typical, non-disruptive misbehaviors (see #62) disciplined by warnings	49.06	49.99	49.21	49.52	49.03	50.22
84. typical, non-disruptive misbehaviors (see #62) disciplined by threat or criticism	50.29	48.76	52.37	49.57	48.86	50.04
85. typical, disruptive misbehaviors (see #63) disciplined by management	48.13	52.48	48.30	47.63	51.72	49.69
86. typical, disruptive misbehaviors (see #63) disciplined by warnings	51.25	49.09	50.11	48.79	52.72	50.63
87. typical, disruptive misbehaviors (see #63) disciplined by threat or criticism	50.25	49.12	48.19	54.50	46.50	48.38 *
88. misbehaviors related to aggression toward teacher (see #64) disciplined by management	56.00	49.40	49.82	Insufficient Data		

Proportion of:	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
89. misbehaviors related to aggression toward teacher (see #64) disciplined by warnings	53.40	46.50	48.27	Insufficient Data		
90. misbehaviors related to aggression toward teacher (see #64) disciplined by threat or criticism	46.80	49.70	50.45	Insufficient Data		
91. misbehaviors related to peer aggression (see #65) disciplined by management	49.40	52.76	49.06	50.25	50.83	48.50
92. misbehaviors related to peer aggression (see #65) disciplined by warnings	47.60	46.53	54.67	54.63	46.33	62.88 **
93. misbehaviors related to peer aggression (see #65) disciplined by threat or criticism	50.00	48.24	51.61	56.88	47.28	46.63 *
94. poor coping behaviors (see #66) disciplined by management	Insufficient Data			Insufficient Data		
95. poor coping behaviors (see #66) disciplined by warnings	Insufficient Data			Insufficient Data		
96. poor coping behaviors (see #66) disciplined by threat or criticism	Insufficient Data			Insufficient Data		

Child Initiated Contacts

Proportion of:

97. dyadic contacts which were child initiated
98. child initiated contacts which were work related
99. child initiated work contacts which were refused
100. child initiated work contacts receiving brief feedback
101. child initiated work contacts receiving long feedback
102. child initiated work contacts receiving praise
103. child initiated work contacts receiving criticism
104. child initiated work contacts accompanied by teacher impatience
105. child initiated contacts which were approval seeking
106. child initiated approval seeking contacts which were refused
107. child initiated approval seeking contacts which were given feedback

	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
	50.73	50.43	50.68	49.03	52.22	51.11
	53.13	49.48	47.12	48.36	50.16	49.00
	49.35	50.56	48.77	52.39	52.01	49.89
	46.87	49.42	50.39	52.54	49.31	49.21
	53.58	50.20	49.93	46.29	49.63	50.71
	50.83	49.62	52.04	53.96	50.07	50.23
	47.78	50.51	50.42	49.32	48.74	50.06
	48.40	49.49	49.63	52.11	50.49	49.71
	48.40	50.26	52.95	52.79	49.17	52.49
	48.00	48.71	51.40	50.22	50.69	51.30
	52.00	51.36	48.54	49.78	49.30	48.10

Proportion of:	Noticeable			Eye Contact		
	Low	Medium	High	Low	Medium	High
108. child initiated approval seeking contacts which were praised	48.58	50.37	50.00	49.78	49.27	52.87
109. child initiated approval seeking contacts which were criticized	49.95	50.65	50.03	50.39	48.63	48.43
110. child initiated contacts which were either work or approval seeking contacts	52.33	49.54	48.39	49.43	49.78	50.09
111. child initiated work or approval seeking contacts which were praised	51.93	49.47	52.19	54.46	49.90	51.83
112. child initiated work or approval seeking contacts which were criticized	47.58	50.62	51.33	49.18	48.38	49.54
113. child initiated contacts which were housekeeping	49.15	50.14	49.77	49.46	49.68	48.97
114. child initiated housekeeping contacts which were refused	46.11	52.59	50.22	51.93	50.72	49.68
115. child initiated housekeeping contacts which were approved	53.89	47.24	49.75	48.14	49.15	50.21
116. child initiated housekeeping contacts receiving teacher thanks	52.44	49.85	51.16	48.50	51.45	46.37
117. child initiated housekeeping contacts receiving teacher reward	49.00	50.11	50.13	48.71	48.98	50.68
118. child initiated housekeeping contacts receiving teacher reward or thanks	51.56	49.61	51.06	48.36	50.32	46.79

	Proportion of:	Noticeable			Eye Contact		
		Low	Medium	High	Low	Medium	High
119.	child initiated contacts which were personal	49.80	50.08	51.21	53.50	51.08	48.60
120.	child initiated personal contacts which were refused	48.35	48.54	52.94	*	48.14	49.30
121.	child initiated personal contacts which were approved	51.50	51.49	47.29		51.77	50.23
122.	child initiated personal contacts which were accompanied by teacher warmth	52.48	50.24	50.04		53.36	48.61
123.	child initiated personal contacts which were accompanied by negative teacher reaction	50.00	50.81	50.10		47.64	49.20
124.	child initiated personal contacts accompanied by teacher reward	49.39	49.19	50.31		49.45	50.33
125.	child initiated contacts which were tattles	47.10	50.83	52.39	*	49.14	49.24
126.	child initiated tattles which were rejected	39.75	51.59	50.31	***	42.73	48.38
127.	child initiated tattles which were approved	60.25	48.41	49.69	***	57.27	51.63
128.	child initiated contacts which were social	47.68	49.06	52.14	*	48.32	49.76

Proportion of:	Noticeable				Eye Contact			
	Low	Medium	High	p	Low	Medium	High	p
129. child initiated social contacts which were refused	48.10	49.00	53.88	*	46.47	50.26	53.15	*
130. child initiated social contacts which were given brief feedback	53.71	49.36	46.95	*	54.59	47.12	47.59	*
131. child initiated social contacts which were given long feedback	47.19	51.18	49.86		47.76	52.53	50.22	
132. work contacts (private and public) receiving teacher praise	53.63	48.47	49.96	*	54.83	48.96	48.74	*
133. work contacts (private and public) receiving teacher criticism	48.05	50.30	51.96		52.48	47.66	47.40	**
134. all teacher afforded housekeeping and child initiated housekeeping and personal contacts receiving teacher rewards	49.49	49.85	48.67		49.14	50.96	50.35	
135. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a positive teacher reaction	48.97	51.01	50.38		52.44	48.74	51.63	
136. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a negative teacher reaction	50.66	50.70	49.35		47.84	48.50	49.73	
137. dyadic contacts receiving a negative teacher reaction	48.85	50.97	51.00		51.24	47.96	48.54	*

Proportion of:	Noticeable				Eye Contact			
	Low	Medium	High	p	Low	Medium	High	p
138. dyadic contacts receiving a positive teacher reaction	54.35	48.59	49.11	**	54.17	49.30	50.71	
Number of:								
139. response opportunities per child	47.85	49.16	54.11	**	45.72	47.68	54.00	***
140. small group response opportunities per child	50.53	49.46	51.74		49.86	48.53	48.69	
141. general class response opportunities per child	46.53	49.29	54.44	***	43.41	48.22	57.86	***
142. teacher afforded contacts per child	49.68	49.46	51.84		53.38	48.34	49.66	*
143. teacher afforded work contacts per child	50.85	49.72	51.39		53.17	49.23	50.29	
144. routine teacher afforded housekeeping contacts	46.43	48.90	52.84	**	50.21	47.44	52.03	
145. routine teacher afforded personal contacts	51.65	50.75	50.33		50.62	48.82	48.83	
146. routine teacher afforded social contacts	50.88	48.67	51.12		49.66	48.80	48.26	
147. behavior related contacts	45.05	49.81	52.11	***	53.41	48.68	49.89	
148. times a teacher appointed a monitor	48.85	49.85	49.25		52.17	49.40	53.71	
149. times a teacher held up a child's behavior as a good example for the rest of the class to follow	49.93	49.11	49.61		50.66	51.34	47.77	

Number of:	Noticeable				Eye Contact			
	Low	Medium	High	p	Low	Medium	High	p
150. times a teacher held up a child's behavior as a bad example	48.80	50.31	49.88		50.48	49.82	51.46	
151. times a teacher flattered a child	49.53	49.43	51.28		48.83	48.68	53.74	**
152. times a teacher displayed physical affection toward a child	49.18	50.41	49.00		49.55	49.60	49.46	
153. times a teacher engaged in some other type of behavior coded in the Adult Critical Incidents section	49.03	48.92	52.54	*	50.31	49.84	50.60	
154. child initiated contacts per child	46.38	50.25	53.79	***	49.97	50.17	52.54	
155. child initiated work contacts per child	48.00	50.23	51.96		48.90	50.04	51.40	
156. child initiated approval seeking contacts per child	46.10	50.40	54.61	***	51.69	49.23	53.40	
157. child initiated housekeeping contacts per child	47.45	50.62	51.67		50.83	49.73	51.03	
158. child initiated personal contacts per child	48.05	50.03	52.12		52.14	50.89	50.89	
159. teacher afforded work praise contacts	50.18	49.14	51.91		51.76	48.66	50.91	
160. teacher afforded work criticism contacts	47.75	50.20	53.54	*	51.86	47.68	49.17	
161. teacher afforded positive evaluations	49.43	49.73	51.26		51.00	48.86	52.40	

Number of:	<u>Noticeable</u>			<u>Eye Contact</u>				
	Low	Medium	High	p	Low	Medium	High	p
162. teacher afforded negative evaluations	50.58	50.06	50.63		48.48	49.34	49.83	
163. teacher afforded contacts which served as rewards	49.48	49.75	48.81		49.90	50.71	50.09	
164. dyadic contacts per child	44.88	49.73	54.72	***	51.28	48.21	52.43	

*** $p \leq .001$
 ** $p \leq .01$
 * $p \leq .05$

Table F-5. Group Means for Classroom Observation Variables for Students Perceived Consistently on the Cooperative Scale

Proportion of:	Cooperative			p
	Low	Medium	High	
1. dyadic contacts which were response opportunities	46.13	49.93	52.20	**
2. response opportunities occurring in small groups	48.79	51.85	47.95	
3. response opportunities occurring in general class	51.21	48.15	52.06	
<u>Small Group Data</u>				
4. small group response opportunities given non-volunteers	53.04	52.60	46.27	**
5. non-volunteers called on in small groups given praise	48.36	50.28	50.39	
6. non-volunteers called on in small groups given criticism	48.84	49.50	48.96	
7. small group response opportunities given volunteers	44.67	49.24	56.42	***
8. volunteers called on in small groups given praise	48.80	50.12	49.36	
9. volunteers called on in small groups given criticism	50.00	49.76	49.75	
10. small group response opportunities given waving volunteers	53.19	49.25	49.27	

Proportion of:	<u>Cooperative</u>			p
	Low	Medium	High	
11. waving volunteers called on in small group given praise				
12. waving volunteers called on in small group given criticism				
13. small group response opportunities given to called-out answers	49.74	48.41	47.70	
14. called-out answers in small groups given praise	51.13	50.63	47.27	
15. called-out answers in small groups given criticism	48.40	50.41	50.20	
16. small group response opportunities given praise	50.93	49.90	49.33	
17. small group response opportunities given criticism	48.22	49.62	49.03	
<u>General Class Data</u>				
18. general class response opportunities given non-volunteers	49.94	50.67	49.51	
19. non-volunteers called on in general class given praise	53.65	48.81	50.40	
20. non-volunteers called on in general class given criticism	52.89	49.22	49.83	*

Proportion of:	Cooperative			p
	Low	Medium	High	
21. general class response opportunities given volunteers	47.26	49.63	52.71	*
22. volunteers given praise in general class	48.20	51.26	48.47	
23. volunteers given criticism in general class	48.92	50.67	50.04	
24. general class response opportunities given waving volunteers	50.79	49.68	49.32	
25. waving volunteers given praise in general class	48.75	50.00	50.00	
26. waving volunteers given criticism in general class	50.00	50.00	50.00	
27. general class response opportunities given to called-out answers	53.74	49.32	47.08	**
28. called-out answers in general class given praise	51.36	48.43	53.29	
29. called-out answers in general class given criticism	53.04	50.00	48.24	
30. general class response opportunities given praise	51.28	50.35	49.47	
31. general class response opportunities given criticism	50.89	50.15	49.25	

Total Response Opportunities

Proportion of:

	<u>Cooperative</u>			<u>p</u>
	<u>Low</u>	<u>Medium</u>	<u>High</u>	
32. response opportunities in which volunteers, waving volunteers, and called-out answers received praise	50.00	50.98	48.42	
33. response opportunities in which volunteers, waving volunteers, and called-out answers received criticism	49.75	50.68	49.50	
34. response opportunities in which non-volunteers received praise	51.54	49.89	49.08	
35. response opportunities in which non-volunteers received criticism	51.54	49.42	49.03	*
36. dyadic contacts which were teacher afforded	48.92	49.89	51.57	
37. public and private work contacts which were private	52.08	49.87	49.62	
38. all public and private work contacts, including approval seeking which were private	52.15	49.89	49.48	
39. all dyadic contacts (excluding behavior) which were private non-academic	52.77	49.68	48.60	*
40. teacher afforded contacts which were work related	50.63	51.22	48.15	

Proportion of:	Cooperative			p
	Low	Medium	High	
41. teacher afforded work contacts given praise	49.53	51.17	48.90	
42. teacher afforded work contacts given criticism	52.72	49.65	46.87	**
43. teacher afforded work contacts in which child has a positive reaction	49.15	50.16	49.54	
44. teacher afforded work contacts in which child has a negative reaction	51.13	50.55	48.87	
45. teacher afforded work contacts which were observations of work	48.00	51.43	50.00	
46. teacher afforded work contacts which were brief	52.06	49.25	49.98	
47. teacher afforded work contacts which were long	49.28	49.51	50.05	
48. teacher afforded contacts which were housekeeping	47.77	48.31	52.66	**
49. teacher afforded housekeeping contacts which were routine	49.14	50.81	49.79	
50. teacher afforded housekeeping contacts in which child received thanks	49.74	49.54	48.45	

Proportion of:	Cooperative			p
	Low	Medium	High	
51. teacher afforded housekeeping contacts which served as rewards	50.98	49.17	51.91	
52. teacher afforded contacts which were personal	52.85	50.47	49.78	
53. teacher afforded personal contacts which were routine	51.69	49.43	50.94	
54. teacher afforded personal contacts to which child responded with a positive reaction	48.05	50.66	51.88	
55. teacher afforded personal contacts to which child responded with a negative reaction	49.93	50.67	47.47	
56. teacher afforded contacts which were social	48.33	49.15	50.25	
57. teacher afforded social contacts which were routine	57.13	50.35	51.33	
58. teacher afforded social contacts to which child responded with a positive reaction	44.13	49.88	48.67	
59. teacher afforded social contacts to which child responded with a negative reaction	48.13	49.65	50.00	**

Behavior Related Contacts

Proportion of:

		Cooperative			p
		Low	Medium	High	
60.	dyadic contacts which were behavioral contacts	57.71	50.09	44.34	***
61.	behavioral contacts which were typical misbehaviors (i.e., individually inappropriate, social chat, disruptive, and deliberate trouble making)	51.77	50.84	47.88	
62.	typical misbehaviors (see #61) which were non-disruptive (i.e., individually inappropriate and social chat)	46.98	49.50	53.83	***
63.	typical misbehaviors (see #61) which were disruptive (i.e., disruptive and deliberate trouble making)	53.02	50.50	46.17	***
64.	behavioral contacts which represented aggression toward the teacher (i.e., griping and teasing/defying)	52.60	49.71	47.36	*
65.	behavioral contacts which represented aggression toward peers (i.e., bossing, bullying, verbal and physical aggression)	50.42	50.04	48.58	
66.	behavioral contacts which represented poor coping behavior or emotional over-reaction (crying and pouting/sulking)	50.90	49.63	50.61	
67.	behavioral contacts which were non-interactive, anti-social misbehaviors (cheating + sleeping + vomiting)	48.83	50.21	48.08	

Proportion of:	Cooperative			p
	Low	Medium	High	
68. behavioral contacts which represented behavioral praise	48.79	48.39	51.95	*
69. behavioral contacts responded to with non-verbal intervention	50.15	48.84	50.73	
70. behavioral contacts responded to with management interventions	50.08	50.26	48.00	
71. behavioral contacts responded to with warning interventions	52.83	51.41	49.07	
72. behavioral contacts responded to with threat interventions	54.65	48.88	48.59	***
73. behavioral contacts responded to with criticism	51.10	51.11	46.61	**
74. behavioral contacts which were of a negative nature	51.04	51.89	46.68	**
75. behavioral contacts in which child responds by being cowed	50.25	50.38	49.81	
76. behavioral contacts in which child responds by being sullen	52.69	49.10	47.31	**
77. behavioral contacts and adult critical incidents which were positively reinforced	47.40	49.06	52.82	**
78. misbehaviors coded to which the teacher responded	48.44	51.10	49.16	

Proportion of:	Cooperative			p
	Low	Medium	High	
79. typical misbehaviors (see #61) disciplined by management	48.85	49.91	50.25	
80. typical misbehaviors (see #61) disciplined by warnings	52.72	50.49	48.67	
81. typical misbehaviors (see #61) disciplined by threat or criticism	50.26	50.54	47.30	
82. typical, non-disruptive misbehaviors (see #62) disciplined by management	49.51	49.65	50.31	
83. typical, non-disruptive misbehaviors (see #62) disciplined by warnings	52.62	50.07	48.25	
84. typical, non-disruptive misbehaviors (see #62) disciplined by threat or criticism	49.94	51.13	48.25	
85. typical, disruptive misbehaviors (see #63) disciplined by management	46.56	52.27	45.78	
86. typical, disruptive misbehaviors (see #63) disciplined by warnings	51.24	49.47	59.11	*
87. typical, disruptive misbehaviors (see #63) disciplined by threat or criticism	50.06	48.93	46.89	
88. misbehaviors related to aggression toward teacher (see #64) disciplined by management	Insufficient Data			

	Proportion of:	Cooperative			p
		Low	Medium	High	
89.	misbehaviors related to aggression toward teacher (see #64) disciplined by warnings				
90.	misbehaviors related to aggression toward teacher (see #64) disciplined by threat or criticism				
91.	misbehaviors related to peer aggression (see #65) disciplined by management	48.76	51.54	48.38	
92.	misbehaviors related to peer aggression (see #65) disciplined by warnings	51.29	49.17	48.75	
93.	misbehaviors related to peer aggression (see #65) disciplined by threat or criticism	52.59	48.54	48.63	
94.	poor coping behaviors (see #66) disciplined by management				
95.	poor coping behaviors (see #66) disciplined by warnings				
96.	poor coping behaviors (see #66) disciplined by threat or criticism				

Insufficient Data

Insufficient Data

Insufficient Data

Insufficient Data

Insufficient Data

Child Initiated Contacts

Proportion of:

	Cooperative				p
	Low	Medium	High		
97. dyadic contacts which were child initiated	47.48	50.29	51.86		*
98. child initiated contacts which were work related	48.69	49.96	52.11		
99. child initiated work contacts which were refused	52.68	49.58	47.75		**
100. child initiated work contacts receiving brief feedback	49.30	49.73	51.32		
101. child initiated work contacts receiving long feedback	49.15	50.58	49.52		
102. child initiated work contacts receiving praise	49.83	50.70	48.89		
103. child initiated work contacts receiving criticism	50.04	49.88	49.14		
104. child initiated work contacts accompanied by teacher impatience	50.96	50.79	48.55		
105. child initiated contacts which were approval seeking	49.67	49.82	49.15		
106. child initiated approval seeking contacts which were refused	48.58	50.27	47.75		
107. child initiated approval seeking contacts which were given feedback	51.42	49.69	52.21		

Proportion of:

		Cooperative			p
		Low	Medium	High	
108.	child initiated approval seeking contacts which were praised	49.04	51.02	52.75	
109.	child initiated approval seeking contacts which were criticized	49.15	49.60	48.94	
110.	child initiated contacts which were either work or approval seeking contacts	48.64	50.11	51.40	
111.	child initiated work or approval seeking contacts which were praised	49.83	51.16	49.66	
112.	child initiated work or approval seeking contacts which were criticized	49.57	50.04	48.71	
113.	child initiated contacts which were housekeeping	48.54	50.84	48.98	
114.	child initiated housekeeping contacts which were refused	56.52	49.35	45.17	***
115.	child initiated housekeeping contacts which were approved	43.05	50.55	54.83	***
116.	child initiated housekeeping contacts receiving teacher thanks	50.48	51.44	48.60	
117.	child initiated housekeeping contacts receiving teacher reward	52.87	49.60	48.80	*
118.	child initiated housekeeping contacts receiving teacher reward or thanks	52.30	50.72	48.23	

Proportion of:	Cooperative			p
	Low	Medium	High	
119. child initiated contacts which were personal	52.44	49.60	49.51	
120. child initiated personal contacts which were refused	52.78	49.70	47.84	*
121. child initiated personal contacts which were approved	47.24	50.16	52.16	*
122. child initiated personal contacts which were accompanied by teacher warmth	49.11	50.40	50.52	
123. child initiated personal contacts which were accompanied by negative teacher reaction	50.00	50.18	47.66	
124. child initiated personal contacts accompanied by teacher reward	50.62	49.72	49.16	
125. child initiated contacts which were tattles	52.15	51.22	45.77	***
126. child initiated tattles which were rejected	53.92	47.50	45.08	*
127. child initiated tattles which were approved	46.08	52.50	54.92	*
128. child initiated contacts which were social	50.06	49.12	49.06	

	Proportion of:	Cooperative			p
		Low	Medium	High	
129.	child initiated social contacts which were refused	50.69	48.39	49.76	
130.	child initiated social contacts which were given brief feedback	50.59	49.94	51.06	
131.	child initiated social contacts which were given long feedback	50.59	50.70	48.50	
132.	work contacts (private and public) receiving teacher praise	50.38	51.04	48.71	
133.	work contacts (private and public) receiving teacher criticism	53.58	50.22	46.83	***
134.	all teacher afforded housekeeping and child initiated housekeeping and personal contacts receiving teacher rewards	51.15	49.24	51.13	
135.	teacher afforded personal and social contacts and child initiated personal contacts accompanied by a positive teacher reaction	46.94	50.47	51.02	
136.	teacher afforded personal and social contacts and child initiated personal contacts accompanied by a negative teacher reaction	49.38	50.05	47.15	
137.	dyadic contacts receiving a negative teacher reaction	52.38	50.15	46.28	**

Proportion of:	Cooperative			p
	Low	Medium	High	
138. dyadic contacts receiving a positive teacher reaction	47.83	50.76	50.85	
Number of:				
139. response opportunities per child	48.15	49.96	50.00	
140. small group response opportunities per child	47.90	50.68	48.71	
141. general class response opportunities per child	49.60	48.91	51.22	
142. teacher afforded contacts per child	53.46	49.99	48.71	*
143. teacher afforded work contacts per child	53.71	50.21	47.77	**
144. routine teacher afforded housekeeping contacts	49.46	48.58	51.48	
145. routine teacher afforded personal contacts	53.52	50.92	49.55	
146. routine teacher afforded social contacts	50.75	49.52	49.38	
147. behavior related contacts	58.77	49.41	44.80	***
148. times a teacher appointed a monitor	49.04	48.41	51.58	
149. times a teacher held up a child's behavior as a good example for the rest of the class to follow	50.27	49.63	50.68	

	Number of:	Cooperative			p
		Low	Medium	High	
150.	times a teacher held up a child's behavior as a bad example	50.81	49.68	49.45	
151.	times a teacher flattered a child	49.00	50.18	50.38	
152.	times a teacher displayed physical affection toward a child	51.04	50.08	49.29	
153.	times a teacher engaged in some other type of behavior coded in the Adult Critical Incidents section	49.79	50.81	49.14	
154.	child initiated contacts per child	51.65	49.95	49.09	
155.	child initiated work contacts per child	50.58	49.67	50.23	
156.	child initiated approval seeking contacts per child	50.48	49.54	49.52	
157.	child initiated housekeeping contacts per child	49.23	50.75	49.15	
158.	child initiated personal contacts per child	53.46	49.71	48.62	*
159.	teacher afforded work praise contacts	49.88	51.19	48.83	
160.	teacher afforded work criticism contacts	52.42	50.56	46.78	**
161.	teacher afforded positive evaluations	48.83	49.61	51.91	

Number of:

- 162. teacher afforded negative evaluations
- 163. teacher afforded contacts which served as rewards
- 164. dyadic contacts per child

Cooperative			
Low	Medium	High	p
51.00	49.69	47.31	*
52.50	48.84	50.57	
55.23	49.60	46.89	***

*** $p \leq .001$
 ** $p \leq .01$
 * $p \leq .05$

Table F-6. Group Means for Classroom Observation Variables for Students Perceived Consistently on the Attachment and Concern Scales

Proportion of:	<u>Attachment</u>			p^2	<u>Concern</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>		<u>Low</u>	<u>Medium</u>	<u>High</u>
1. dyadic contacts which were response opportunities	44.5	50.6	53.6	***	52.5	50.6	46.6
2. response opportunities occurring in small groups	51.7	51.5	48.6		47.8	51.0	50.0
3. response opportunities occurring in general class	48.3	48.5	51.4		52.2	49.0	50.0
<u>Small Group Data</u>							
4. small group response opportunities given non-volunteers	54.3	52.4	47.2	*	45.5	51.5	52.8
5. non-volunteers called on in small groups given praise	49.6	47.8	53.8	*	50.4	49.1	48.7
6. non-volunteers called on in small groups given criticism	48.9	50.0	49.1		49.1	49.9	50.5
7. small group response opportunities given volunteers	47.3	47.9	53.4	**	54.4	49.8	46.3
8. volunteers called on in small groups given praise	51.2	53.1	48.2		49.0	49.9	49.7
9. volunteers called on in small groups given criticism	49.4	49.6	50.5		49.4	50.9	49.4
10. small group response opportunities given waving volunteers	50.6	48.4	50.4		50.8	48.1	51.6

Proportion of:	<u>Affacement</u>			<u>Concern</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
11. waving volunteers called on in small group given praise	-	-	-	-	-	-
12. waving volunteers called on in small group given criticism	-	-	-	-	-	-
13. small group response opportunities given to called-out answers	47.6	49.0	50.3	49.8	49.8	50.3
14. called-out answers in small groups given praise	47.6	53.2	49.0	48.8	50.7	53.2
15. called-out answers in small groups given criticism	48.5	50.3	52.3	49.7	49.9	48.6
16. small group response opportunities given praise	49.0	52.6	49.3	49.8	49.6	48.8
17. small group response opportunities given criticism	48.1	49.9	50.8	48.7	49.2	48.5
<u>General Class Data</u>						
18. general class response opportunities given non-volunteers	52.3	50.7	47.2	46.0	51.1	54.1 ***
19. non-volunteers called on in general class given praise	51.2	48.8	49.9	49.2	48.9	50.7
20. non-volunteers called on in general class given criticism	49.5	48.9	50.5	50.1	49.2	49.0

	Proportion of:	<u>Attachment</u>			p	<u>Concern</u>		
		<u>Low</u>	<u>Medium</u>	<u>High</u>		<u>Low</u>	<u>Medium</u>	<u>High</u>
21.	general class response opportunities given volunteers	47.9	48.7	54.1	**	54.1	49.3	47.4
22.	volunteers given praise in general class	48.9	52.5	48.6		49.7	50.9	50.3
23.	volunteers given criticism in general class	49.1	50.2	49.1		50.0	51.2	48.9
24.	general class response opportunities given waving volunteers	50.0	49.8	51.7		50.0	49.6	50.0
25.	waving volunteers given praise in general class	48.6	51.1	50.0		50.0	50.0	48.3
26.	waving volunteers given criticism in general class	50.0	50.0	50.0		50.0	50.0	50.0
27.	general class response opportunities given to called-out answers	52.0	50.2	48.2		49.8	49.5	50.3
28.	called-out answers in general class given praise	48.3	49.1	52.2		49.1	50.2	51.2
29.	called-out answers in general class given criticism	51.0	48.3	48.5		50.1	50.7	48.8
30.	general class response opportunities given praise	47.0	51.3	49.3		50.5	48.8	49.3
31.	general class response opportunities given criticism	50.1	48.9	48.9		49.5	50.7	47.8

Total Response Opportunities

Proportion of:

	<u>Attachment</u>			<u>Concern</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
32. response opportunities in which volunteers, waving volunteers, and called-out answers received praise	47.6	51.6	49.1	49.0	50.0	49.4
33. response opportunities in which volunteers, waving volunteers, and called-out answers received criticism	48.5	49.4	49.7	49.6	51.1	47.8
34. response opportunities in which non-volunteers received praise	50.1	50.4	50.2	51.1	48.3	50.3
35. response opportunities in which non-volunteers received criticism	50.8	49.3	49.5	49.3	49.5	49.1
36. dyadic contacts which were teacher afforded	51.7	49.7	50.7	49.1	48.6	51.4
37. public and private work contacts which were private	54.6	49.5	47.6	48.2	49.7	52.7
38. all public and private work contacts, including approval seeking which were private	54.6	49.5	47.4	48.2	49.6	53.0
39. all dyadic contacts (excluding behavior) which were private non-academic	53.5	49.4	47.3	49.6	48.7	52.6
40. teacher afforded contacts which were work related	51.9	50.7	48.8	48.4	51.0	50.4

	Proportion of:	Attachment			p	Concern		
		Low	Med.	High		Low	Medium	High
41.	teacher afforded work contacts given praise	49.9	50.6	48.4		48.8	50.1	50.7
42.	teacher afforded work contacts given criticism	55.7	50.5	46.6	***	49.9	50.3	50.0
43.	teacher afforded work contacts in which child has a positive reaction	48.5	51.1	49.5		49.9	49.0	48.9
44.	teacher afforded work contacts in which child has a negative reaction	53.1	49.9	48.5	*	51.1	49.1	50.2
45.	teacher afforded work contacts which were observations of work	50.3	49.2	50.5		50.4	50.7	47.6
46.	teacher afforded work contacts which were brief	50.2	51.0	49.7		48.9	49.5	52.1
47.	teacher afforded work contacts which were long	49.8	49.2	50.0		50.5	50.1	49.9
48.	teacher afforded contacts which were housekeeping	45.8	49.3	51.5	**	52.3	48.8	48.9
49.	teacher afforded housekeeping contacts which were routine	50.9	50.5	50.5		48.9	50.6	50.1
50.	teacher afforded housekeeping contacts in which child received thanks	48.7	49.3	48.4		50.3	49.7	49.2

	Proportion of:	<u>Attachment</u>			<u>Concern</u>		
		<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
51.	teacher afforded housekeeping contacts which served as rewards	50.2	49.8	50.9	50.9	49.0	50.5
52.	teacher afforded contacts which were personal	52.9	49.4	49.4	50.1	49.9	50.9
53.	teacher afforded personal contacts which were routine	48.7	51.8	51.3	52.3	50.0	50.6
54.	teacher afforded personal contacts to which child responded with a positive reaction	49.4	50.7	49.9	48.2	50.7	49.3
55.	teacher afforded personal contacts to which child responded with a negative reaction	52.3	47.2	48.5	49.4	49.4	49.8
56.	teacher afforded contacts which were social	48.5	49.4	50.6	51.3	50.5	48.7
57.	teacher afforded social contacts which were routine	54.0	49.4	51.1	46.6	49.2	56.1 *
58.	teacher afforded social contacts to which child responded with a positive reaction	47.3	50.8	47.6	52.2	50.5	44.4
59.	teacher afforded social contacts to which child responded with a negative reaction	48.0	49.7	51.1	51.0	50.8	49.3

Behavior Related Contacts

Proportion of:

		<u>Attachment</u>			<u>Concern</u>		
		<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
60.	dyadic contacts which were behavioral contacts	57.2	49.3	45.6 ***	45.6	50.4	53.8 ***
61.	behavioral contacts which were typical misbehaviors (i.e., individually inappropriate, social chat, disruptive, and deliberate trouble making)	49.9	50.2	47.3	48.8	49.7	49.9
62.	typical misbehaviors (see #61) which were non-disruptive (i.e., individually inappropriate and social chat)	46.9	48.7	52.3 *	52.2	50.0	49.2
63.	typical misbehaviors (see #61) which were disruptive (i.e., disruptive and deliberate trouble making)	53.1	51.3	47.7 *	47.8	50.0	50.9
64.	behavioral contacts which represented aggression toward the teacher (i.e., griping and sassing/defying)	53.1	50.9	47.3 *	49.7	48.9	50.1
65.	behavioral contacts which represented aggression toward peers (i.e., bossing, bullying, verbal and physical aggression)	50.6	49.8	50.7	48.4	50.4	50.6
66.	behavioral contacts which represented poor coping behavior or emotional over-reaction (crying and pouting/sulking)	48.7	49.3	49.9	49.4	49.5	49.9
67.	behavioral contacts which were non-interactive, anti-social misbehaviors (cheating + sleeping + vomiting)	53.1	49.4	48.8 *	48.8	50.8	51.1

Proportion of:

	<u>Attachment</u>			<u>Concern</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
			<u>p</u>			<u>p</u>
68. behavioral contacts which represented behavioral praise	48.4	50.1	52.7	51.4	49.0	50.2
69. behavioral contacts responded to with non-verbal intervention	50.0	48.6	50.6	48.2	49.5	52.2
70. behavioral contacts responded to with management interventions	50.6	50.0	50.3	51.3	49.0	49.3
71. behavioral contacts responded to with warning interventions	51.9	50.1	45.9	46.8	51.1	50.9 *
72. behavioral contacts responded to with threat interventions	52.3	51.0	48.0	48.3	50.8	49.1
73. behavioral contacts responded to with criticism	52.4	51.0	47.4	46.7	51.6	49.9 *
74. behavioral contacts which were of a negative nature	52.2	50.4	46.9	46.8	51.3	49.8 *
75. behavioral contacts in which child responds by being cowed	51.1	49.0	48.9	49.6	51.1	48.5
76. behavioral contacts in which child responds by being sullen	53.5	50.8	46.9	47.6	50.9	52.7 *
77. behavioral contacts and adult critical incidents which were positively reinforcing	47.5	51.0	51.7	51.5	49.2	50.4
78. misbehaviors coded to which the teacher responded	49.8	50.9	49.0	49.1	51.0	48.7

		<u>Attachment</u>			<u>p</u>	<u>Concern</u>			<u>p</u>
		<u>Low</u>	<u>Medium</u>	<u>High</u>		<u>Low</u>	<u>Medium</u>	<u>High</u>	
Proportion of:									
79.	typical misbehaviors (see #61) disciplined by management	49.6	49.8	52.6		53.7	48.3	49.9	*
80.	typical misbehaviors (see #61) disciplined by warnings	50.8	49.8	46.5	*	47.7	50.6	50.8	
81.	typical misbehaviors (see #61) disciplined by threat or criticism	50.9	51.1	46.9	*	46.9	52.4	49.1	*
82.	typical, non-disruptive misbehaviors (see #62) disciplined by management	50.2	49.7	52.8		53.4	48.0	50.3	*
83.	typical, non-disruptive misbehaviors (see #62) disciplined by warnings	51.2	49.5	46.2	*	47.8	50.9	51.0	
84.	typical, non-disruptive misbehaviors (see #62) disciplined by threat or criticism	50.6	51.6	47.9		47.7	52.3	49.2	*
85.	typical, disruptive misbehaviors (see #63) disciplined by management	47.7	50.1	51.0		52.2	51.0	47.1	
86.	typical, disruptive misbehaviors (see #63) disciplined by warnings	49.9	48.8	53.5		51.4	49.6	50.5	
87.	typical, disruptive misbehaviors (see #63) disciplined by threat or criticism	50.1	51.1	45.2		45.8	50.0	49.7	
88.	misbehaviors related to aggression toward teacher (see #64) disciplined by management	-	-	-		56.0	48.2	47.0	

Proportion of:

89. misbehaviors related to aggression toward teacher (see #64) disciplined by warnings
90. misbehaviors related to aggression toward teacher (see #64) disciplined by threat or criticism
91. misbehaviors related to peer aggression (see #65) disciplined by management
92. misbehaviors related to peer aggression (see #65) disciplined by warnings
93. misbehaviors related to peer aggression (see #65) disciplined by threat or criticism
94. poor coping behaviors (see #66) disciplined by management
95. poor coping behaviors (see #66) disciplined by warnings
96. poor coping behaviors (see #66) disciplined by threat or criticism

	<u>Attachment</u>			<u>Concern</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
	-	-	-	46.7	51.8	50.8
	-	-	-	45.3	51.4	48.1
	51.6	51.8	47.6	48.9	52.2	49.5
	54.8	51.8	47.2	51.3	48.6	49.8
	50.2	48.3	51.3	48.1	47.8	50.1
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

Child Initiated Contacts

Proportion of:

		<u>Attachment</u>			<u>p</u>	<u>Concern</u>		
		<u>Low</u>	<u>Medium</u>	<u>High</u>		<u>Low</u>	<u>Medium</u>	<u>High</u>
97.	dyadic contacts which were child initiated	48.2	49.9	50.3		52.9	50.4	48.2 *
98.	child initiated contacts which were work related	48.7	50.6	50.8		49.8	49.8	49.9
99.	child initiated work contacts which were refused	54.1	49.9	48.1	**	47.8	49.3	51.3
100.	child initiated work contacts receiving brief feedback	48.8	48.6	52.3		52.0	50.0	48.8
101.	child initiated work contacts receiving long feedback	49.8	51.8	48.3		49.0	50.1	51.3
102.	child initiated work contacts receiving praise	51.2	50.8	48.3		50.0	48.8	51.9
103.	child initiated work contacts receiving criticism	50.2	49.7	49.8		48.2	49.5	49.8
104.	child initiated work contacts accompanied by teacher impatience	53.5	47.5	47.4	***	49.8	49.6	48.8
105.	child initiated contacts which were approval seeking	49.9	49.8	49.3		49.6	51.3	51.0
106.	child initiated approval seeking contacts which were refused	49.5	52.5	49.6		50.8	49.3	48.9
107.	child initiated approval seeking contacts which were given feedback	50.4	47.5	50.3		49.0	50.7	51.1

	Proportion of:	<u>Attachment</u>			<u>p</u>	<u>Concern</u>		
		<u>Low</u>	<u>Medium</u>	<u>High</u>		<u>Low</u>	<u>Medium</u>	<u>High</u>
108.	child initiated approval seeking contacts which were praised	49.0	48.2	53.1		52.4	49.0	51.7
109.	child initiated approval seeking contacts which were criticized	48.5	49.6	49.5		49.0	50.4	49.0
110.	child initiated contacts which were either work or approval seeking contacts	48.6	50.6	50.4		49.5	50.5	50.3
111.	child initiated work or approval seeking contacts which were praised	52.2	49.5	49.9		50.6	48.6	53.4 *
112.	child initiated work or approval seeking contacts which were criticized	49.7	49.6	49.8		48.3	49.7	49.3
113.	child initiated contacts which were housekeeping	48.2	50.8	49.9		52.1	48.8	48.8
114.	child initiated housekeeping contacts which were refused	56.0	50.1	45.8	**	47.6	50.3	50.8
115.	child initiated housekeeping contacts which were approved	43.5	49.8	54.2	***	52.4	49.6	49.1
116.	child initiated housekeeping contacts receiving teacher thanks	50.2	51.4	48.1		49.4	50.9	49.9
117.	child initiated housekeeping contacts receiving teacher reward	48.9	49.1	49.9		51.2	49.1	48.6
118.	child initiated housekeeping contacts receiving teacher reward or thanks	49.8	50.7	48.2		50.7	40.8	49.4

Proportion of:

119. child initiated contacts which were personal
120. child initiated personal contacts which were refused
121. child initiated personal contacts which were approved
122. child initiated personal contacts which were accompanied by teacher warmth
123. child initiated personal contacts which were accompanied by negative teacher reaction
124. child initiated personal contacts accompanied by teacher reward
125. child initiated contacts which were tattles
126. child initiated tattles which were rejected
127. child initiated tattles which were approved
128. child initiated contacts which were social

<u>Attachment</u>			<u>Concern</u>		
<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
		<u>p</u>			<u>p</u>
52.3	49.7	49.5	49.6	50.5	49.9
53.6	50.4	48.1 *	48.1	50.0	50.3
46.0	49.5	52.2 *	51.8	49.9	49.6
48.3	51.8	49.0	50.1	49.0	51.3
48.7	50.5	47.7	47.5	51.3	49.3
52.9	49.1	50.3 *	49.2	49.8	49.4
50.9	49.8	47.4	48.6	49.5	52.0
49.2	47.6	49.4	51.0	48.7	49.0
50.8	52.4	50.6	49.0	51.3	51.0
51.4	48.7	50.3	50.6	48.5	49.6

Proportion of:

	<u>Attachment</u>			<u>Concern</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
129. child initiated social contacts which were refused	48.7	48.7	50.0	48.2	52.5	50.1
130. child initiated social contacts which were given brief feedback	53.2	50.5	50.8	51.0	48.1	52.4
131. child initiated social contacts which were given long feedback	47.4	49.5	48.7	49.9	49.6	47.5
132. work contacts (private and public) receiving teacher praise	49.6	51.5	48.2	49.3	48.5	51.6
133. work contacts (private and public) receiving teacher criticism	54.6	50.2	47.0	48.3	49.8	49.9
134. all teacher afforded housekeeping and child initiated housekeeping and personal contacts receiving teacher rewards	51.7	48.8	51.3	51.0	49.0	48.9
135. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a positive teacher reaction	48.5	51.3	48.5	50.6	50.1	50.0
136. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a negative teacher reaction	50.6	48.7	48.0	48.2	50.7	49.0
137. dyadic contacts receiving a negative teacher reaction	53.4	49.9	46.4	47.7	50.1	49.8

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	<u>Attachment</u>			<u>p</u>	<u>Concern</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>		<u>Low</u>	<u>Medium</u>	<u>High</u>
<u>Proportion of:</u>							
138. dyadic contacts receiving a positive teacher reaction	48.1	51.8	48.8		50.5	48.8	50.1
<u>Number of:</u>							
139. response opportunities per child	48.3	49.9	51.8		51.2	50.2	47.8
140. small group response opportunities per child	49.2	50.8	50.2		49.0	50.3	49.1
141. general class response opportunities per child	48.0	49.5	52.7	*	53.2	49.4	47.3 **
142. teacher afforded contacts per child	56.6	48.7	48.4	**	48.3	48.7	52.4 *
143. teacher afforded work contacts per child	56.9	49.3	48.4	**	48.3	49.1	52.6 *
144. routine teacher afforded housekeeping contacts	48.8	48.9	50.6		50.0	49.0	49.8
145. routine teacher afforded personal contacts	53.8	49.0	49.1	**	49.7	49.4	51.8
146. routine teacher afforded social contacts	50.3	49.8	49.5		49.1	49.6	51.8
147. behavior related contacts	57.5	49.3	45.6	**	45.9	49.9	53.8 ***
148. times a teacher appointed a monitor	47.5	49.2	51.4	*	51.3	49.2	50.8
149. times a teacher held up a child's behavior as a good example for the rest of the class to follow	49.6	49.6	49.9		50.8	48.9	49.7

	Number of:	<u>Attachment</u>			<u>Concern</u>		
		<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
							<u>p</u>
150.	times a teacher held up a child's behavior as a bad example	52.5	49.4	49.4	48.9	49.3	52.2 **
151.	times a teacher flattered a child	49.1	49.7	51.3	50.6	49.3	50.3
152.	times a teacher displayed physical affection toward a child	50.6	50.8	49.0	49.5	49.7	52.2
153.	times a teacher engaged in some other type of behavior coded in the Adult Critical Incidents section	50.1	49.2	49.0	50.5	49.6	50.4
154.	child initiated contacts per child	52.5	49.3	48.7	50.6	50.0	49.0
155.	child initiated work contacts per child	52.1	49.9	49.7	50.9	50.4	48.8
156.	child initiated approval seeking contacts per child	51.5	49.1	50.0	51.1	50.5	50.0
157.	child initiated housekeeping contacts per child	49.2	50.3	49.3	51.8	48.3	49.8
158.	child initiated personal contacts per child	52.2	49.0	48.6	49.9	49.8	49.1
159.	teacher afforded work praise contacts	50.3	50.7	48.9	49.6	49.6	51.2
160.	teacher afforded work criticism contacts	53.6	50.0	47.4	48.4	50.1	49.4 **
161.	teacher afforded positive evaluations	50.0	50.0	48.9	51.4	49.7	49.6

	Number of:	<u>Attachment</u>			<u>Concern</u>		
		<u>Low</u>	<u>Medium</u>	<u>High</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
				<u>p</u>			<u>p</u>
162.	teacher afforded negative evaluations	50.8	48.5	47.8	48.3	50.6	48.6
163.	teacher afforded contacts which served as rewards	52.0	48.6	50.7	50.4	48.4	50.0
164.	dyadic contacts per child	55.6	48.9	47.7	48.2	49.7	51.9

¹ Group means are standardized proportions ($\bar{x} = 50.0$, $SD = 10.0$).

² Probability values are indicated by asterisks. $p \leq .05$, where one asterisk appears; $p \leq .01$, where two asterisks appear, and $p \leq .001$ where three asterisks appear.